

Access DB# 784/10**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: Geraldine Ierscher Examiner #: 70775 Date: 10/22/02
 Art Unit: 1752 Phone Number 301 83208 Serial Number: 091842, 086
 Mail Box and Bldg/Room Location: CP3-11ED7 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

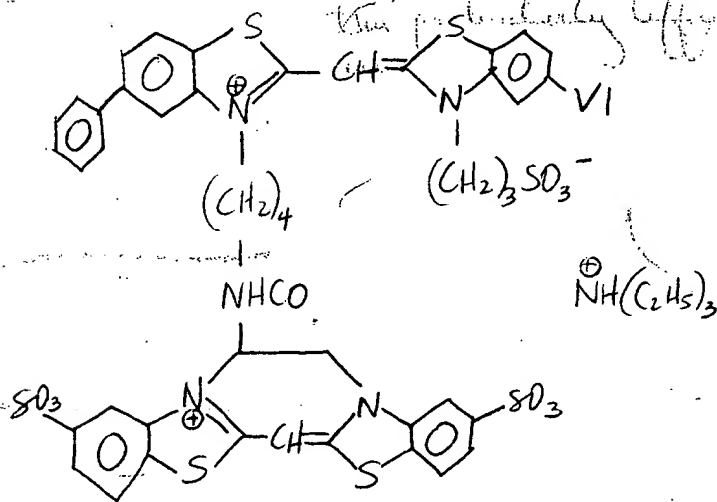
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Mithine dye & silver halide photographic material containing the same
 Inventors (please provide full names): Takashi Katoh & Hiroo Takizawa

Earliest Priority Filing Date: 4/27/2000

For Sequence Searches Only Please include all pertinent information (parent, child, divisional; or issued patent numbers) along with the appropriate serial number.

Please search for photographic material containing a good
 This is particularly difficult and labor



See attachment for generic formula

STAFF USE ONLY

Searcher: <u>K. Fuller</u>	Type of Search	Vendors and cost where applicable
Searcher Phone #: _____	NA Sequence (#) _____	STN <u>✓</u>
Searcher Location: _____	AA Sequence (#) _____	Dialog _____
Date Searcher Picked Up: _____	Structure (#) <u>4</u>	Questel/Orbit _____
Date Completed: <u>10/28/02</u>	Bibliographic _____	Dr. Link _____
Searcher Prep & Review Time: <u>30</u>	Litigation _____	Lexis/Nexis _____
Clerical Prep Time: _____	Fulltext _____	Sequence Systems _____
Online Time: <u>25</u>	Patent Family _____	WWW/Internet _____
	Other _____	Other (specify) _____

EIC1700

Search Results

Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the EIC searcher* who conducted the search *or contact*:

Kathleen Fuller, Team Leader, 308-4290, CP3/4 3D62

Voluntary Results Feedback Form

➤ *I am an examiner in Workgroup:*

Example:

➤ *Relevant prior art found, search results used as follows:*

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms in CP3/4 - 3D62 .

=> FILE REG

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DICTIONARY FILE UPDATES: 27 OCT 2002 HIGHEST RN 466637-52-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

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conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> FILE HCAPLU

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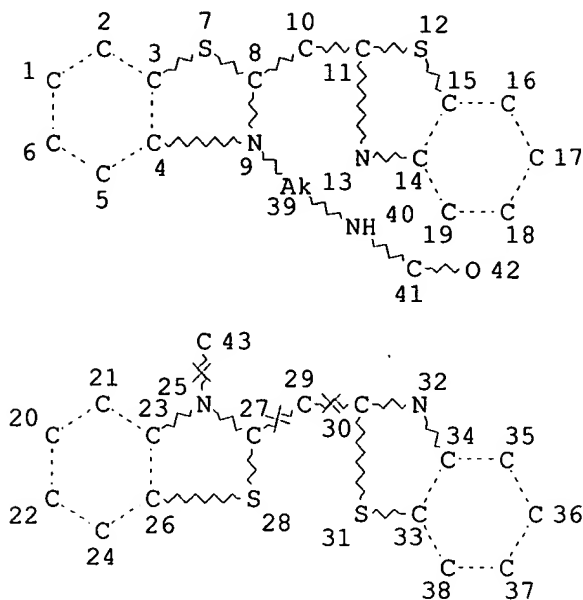
FILE COVERS 1907 - 28 Oct 2002 VOL 137 ISS 18
FILE LAST UPDATED: 27 Oct 2002 (20021027/ED)

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the CAS Roles thesaurus (/RL field) in this file.

=> D QUE L22

L18 STR



NODE ATTRIBUTES:

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 NSPEC IS C AT 41
 NSPEC IS RC AT 43
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

L20 84 SEA FILE=REGISTRY SSS FUL L18
 L22 10 SEA FILE=HCAPLUS ABB=ON L20

=> D L22 1-10 ALL HITSTR

L22 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2002 ACS

AN 2002:636844 HCAPLUS

DN 137:192699

TI Methine dye and silver halide photographic material with high sensitivity

IN Kobayashi, Masaru; Takizawa, Hiroo

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 37 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-14

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

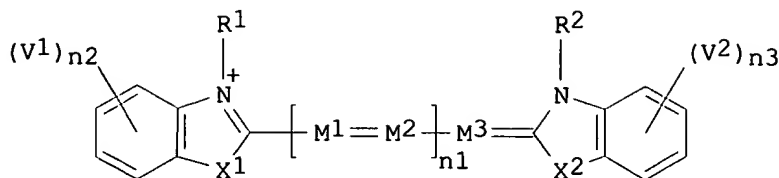
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002236333	A2	20020823	JP 2001-32551	20010208
MARPAT 137:192699				

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

84 structures from
 this query

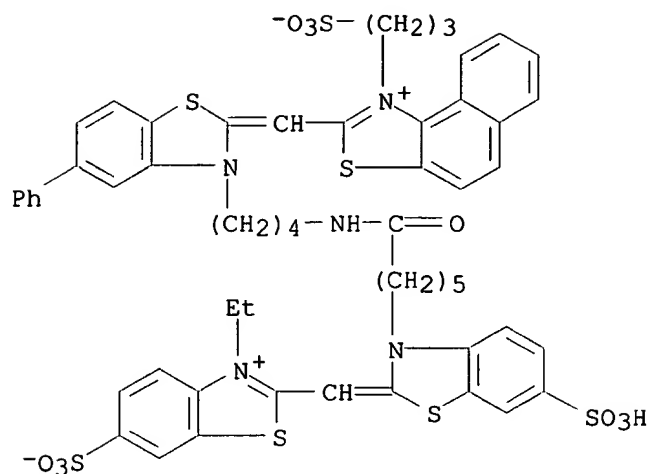
10 Co references

GI



I

- AB The material has .gtoreq.1 Ag halide emulsion layer contg. the methine dye Dye1[L1(Dye2)m1]m2.Xy [L1 = linkage; m1 = 1-5; m2 = 1-5; Dye1 = the first chromophore I (X1, X2 = O, S, NR6, CR7R8; R6-8 = H, alkyl, alkenyl, aryl, heterocycle; R1, R2 = H, alkyl, alkenyl, aryl, heterocycle; M1-3 = methine; n1 = 0-4; V1, V2 = substituent, .gtoreq.1 of V1-2 has condensed benzo structure, the other has substituent more hydrophobic than Cl; n2, n3 = 0-4; L1 links to Dye1 at R1, R2, V1, or V2); Dye2 = the second chromophore; X = charge neutralizing ion; y = the no. of the ion].
- ST photog sensitizer methine dye tow chromophores
- IT Photographic sensitizers
(methine dye with two chromophores for photog. sensitizer)
- IT 450406-02-7P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(methine dye with two chromophores for photog. sensitizer)
- IT 450406-03-8 450406-04-9 450406-05-0 450406-06-1
450406-07-2 450406-08-3 450406-09-4 450406-10-7 450406-11-8
RL: TEM (Technical or engineered material use); USES (Uses)
(methine dye with two chromophores for photog. sensitizer)
- IT 450374-82-0 450406-12-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of methine dye with two chromophores)
- IT 450406-03-8
RL: TEM (Technical or engineered material use); USES (Uses)
(methine dye with two chromophores for photog. sensitizer)
- RN 450406-03-8 HCAPLUS
- CN Naphtho[1,2-d]thiazolium, 2-[[3-[4-[[6-[2-[(3-ethyl-6-sulfobenzothiazolium-2-yl)methylene]-6-sulfo-3(2H)-benzothiazolyl]-1-oxohexyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-1-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)



● Na

L22 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2002 ACS

AN 2002:387561 HCAPLUS

DN 136:393191

TI High sensitive color photographic material containing spectral absorption-controlled silver halide grains

IN Sakurada, Masami; Morimoto, Kiyoshi; Ueda, Fuminori; Yamada, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 81 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C007-20

ICS G03C001-015; G03C001-28; G03C001-38; G03C001-74; G03C007-36; G03C007-388

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002148767	A2	20020522	JP 2001-193596	20010626
	JP 2002287309	A2	20021003	JP 2001-159605	20010528
	CN 1340739	A	20020320	CN 2001-130859	20010828
PRAI	JP 2000-258159	A	20000828		
	JP 2001-9548	A	20010117		
	JP 2001-193596	A	20010626		

OS MARPAT 136:393191

AB The material has .gtoreq.1 layer contg. an emulsion manufd. by mixing Ag halide dispersions with light absorption intensity (A) .gtoreq.60 at spectral absorption max. wavelength (B) <500 nm or with A .gtoreq.100 at B .gtoreq.500 nm and emulsified dispersions. The emulsion shows spectral absorption area intensity change .ltoreq.10% at 400-700 nm when stirred at 40.degree. for 30 min or when aged at 60.degree. and 30% humidity for 3 days. The material having each .gtoreq.2 red-, green-, and blue-sensitive layers with different sensitivity, in which .gtoreq.1 higher sensitive layer (C) of them, contg. the obtained emulsion, is characterized by that

sensitivity of a lower sensitive emulsion layer adjacent to the layer C is .gtoreq.60% of that of the layer C or by that total Ag content is 0.1-7.0 g/m2. Sensitizing dyes are stably adsorbed on the Ag halide grains even when org. solvents are contained.

ST photog emulsion spectral absorption sensitizing dye; emulsion dispersion surfactant org solvent coupler

IT Photographic emulsions
(silver halide photog.emulsion with controlled spectral absorption)

IT 54942-74-4 95050-16-1 96514-07-7
RL: MOA (Modifier or additive use); USES (Uses)
(coupler; photog. emulsion manufd. by mixing with dispersion contg. org. solvent, surfactant, or coupler)

IT 84-74-2, Dibutyl phthalate 2528-39-4, Trihexyl phosphate
RL: MOA (Modifier or additive use); USES (Uses)
(photog. emulsion manufd. by mixing with dispersion contg. org. solvent, surfactant, or coupler)

IT 317816-59-4 381677-20-9 427901-08-4 427901-09-5 427901-10-8
427901-11-9 427901-12-0 427901-13-1 427901-14-2
427901-15-3
RL: TEM (Technical or engineered material use); USES (Uses)
(sensitizing dye; photog. emulsion contg. silver halide grain with multiple sensitizing dye-adsorbed layers)

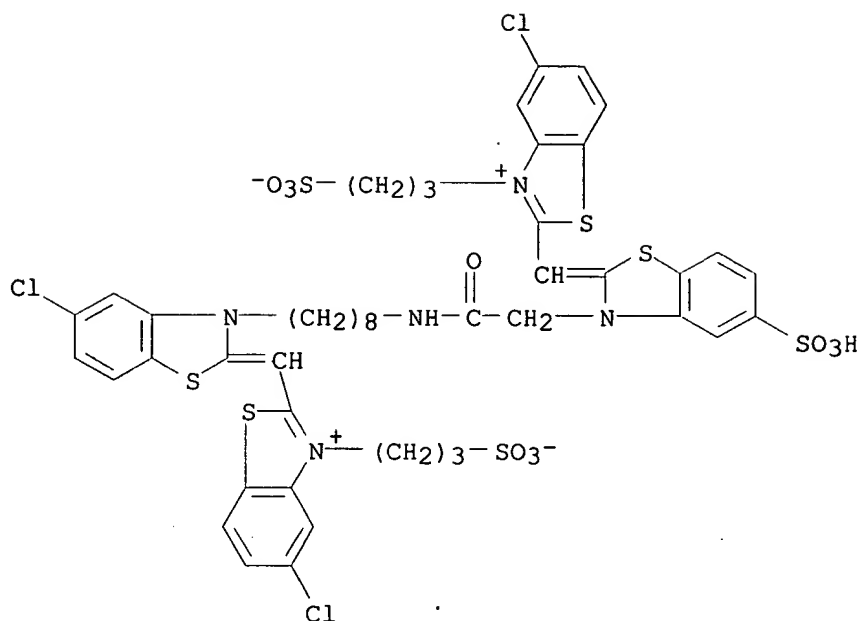
IT 577-11-7 1323-19-9 111763-27-0
RL: MOA (Modifier or additive use); USES (Uses)
(surfactant; photog. emulsion manufd. by mixing with dispersion contg. org. solvent, surfactant, or coupler)

IT 427901-13-1
RL: TEM (Technical or engineered material use); USES (Uses)
(sensitizing dye; photog. emulsion contg. silver halide grain with multiple sensitizing dye-adsorbed layers)

RN 427901-13-1 HCAPLUS

CN Benzothiazolium, 5-chloro-2-[[3-[2-[[8-[5-chloro-2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]octyl]amino]-2-oxoethyl]-5-sulfo-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

● Na

L22 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:237111 HCAPLUS
 DN 136:270433
 TI Silver halide color photographic material containing novel methine dye
 IN Takizawa, Hiroo; Kobayashi, Masaru
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 39 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM G03C001-12
 ICS G03C001-14
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 41

FAN.CNT 1

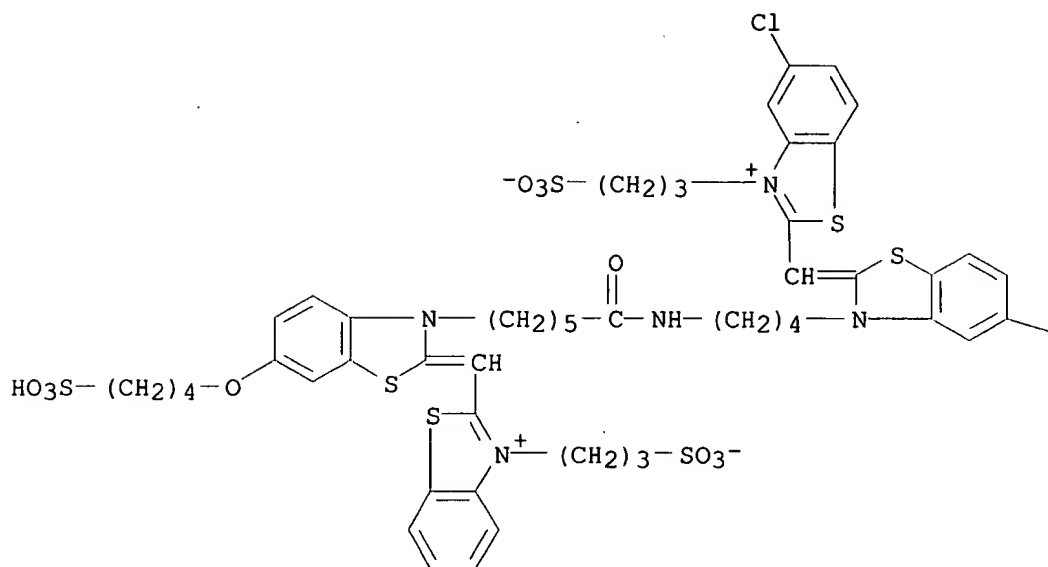
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002090929	A2	20020327	JP 2000-282030	20000918

OS MARPAT 136:270433

AB The invention relates to a Ag halide color photog. material contg. novel methine dye contg. 2 color-forming groups, Dye1 and Dye2, bonded together. The methine dye is represented by Dye1[L2-(Dye2(L-R1)m1)m2]m3 (Dye 1 and Dye 2 = color-forming groups; R1 = dissocg. group with pKa .ltoreq.5; L, L1 = bonding group; m1 = 1-4; and m2, m3 = 1-5).

ST silver halide color photog emulsion methine dye coupler
 IT Cyanine dyes
 Photographic couplers
 Photographic emulsions
 (novel methine dye contained in silver halide color photog. emulsion)
 IT 4224-70-8 29604-44-2 55425-51-9 405233-06-9 405233-08-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (novel methine dye contained in silver halide color photog. emulsion)
 IT 405233-07-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (novel methine dye contained in silver halide color photog. emulsion)
 IT 405233-09-2P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (novel methine dye contained in silver halide color photog. emulsion)
 IT 405233-10-5 405233-11-6 405233-13-8 405233-14-9
 405233-15-0 405233-16-1 405233-17-2
 405233-18-3 405233-19-4 405233-20-7
 405233-21-8 405233-22-9 405233-23-0
 405233-24-1 405233-25-2 405233-27-4
 405233-29-6 405233-31-0 405233-33-2
 405233-35-4 405233-37-6 405233-38-7
 405233-39-8 405233-40-1 405233-41-2
 405233-42-3
 RL: TEM (Technical or engineered material use); USES (Uses)
 (novel methine dye contained in silver halide color photog. emulsion)
 IT 405233-09-2P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (novel methine dye contained in silver halide color photog. emulsion)
 RN 405233-09-2 HCAPLUS
 CN Benzothiazolium, 5-chloro-2-[[3-[4-[[1-oxo-6-[6-(4-sulfobutoxy)-2-[[3-(3-
 sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-
 benzothiazolyl]hexyl]amino]butyl]-5-phenyl-2(3H)-
 benzothiazolyldiene]methyl]-3-(3-sulfophenyl)-, bis(inner salt),
 monosodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

● Na

Ph

IT 405233-13-8 405233-14-9 405233-15-0
 405233-16-1 405233-18-3 405233-20-7
 405233-21-8 405233-22-9 405233-23-0
 405233-25-2 405233-27-4 405233-29-6
 405233-31-0 405233-33-2 405233-35-4
 405233-38-7 405233-39-8 405233-40-1
 405233-41-2 405233-42-3

RL: TEM (Technical or engineered material use); USES (Uses)
 (novel methine dye contained in silver halide color photog. emulsion)

RN 405233-13-8 HCAPLUS

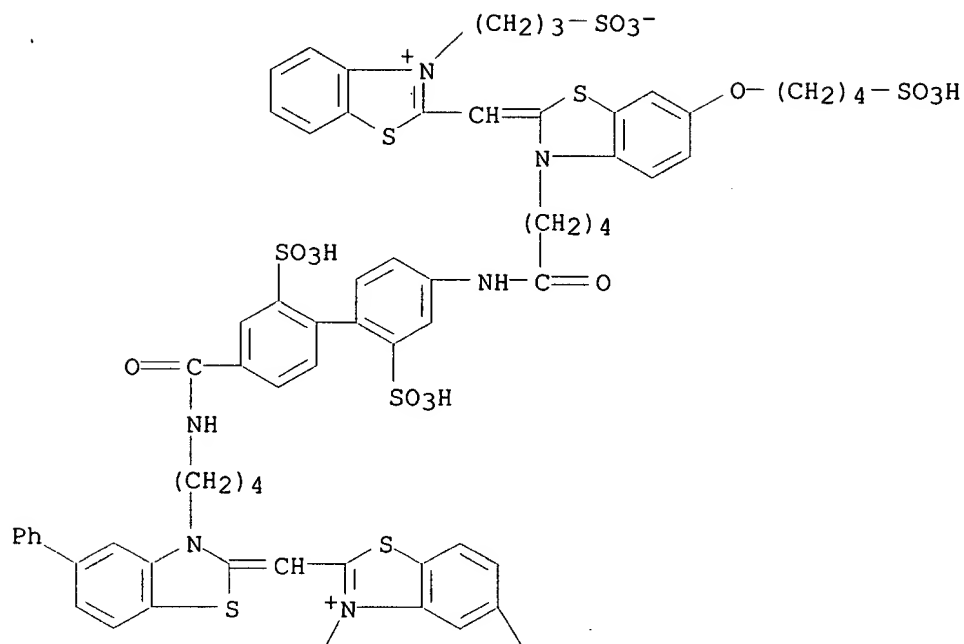
CN Benzothiazolium, 5-chloro-2-[[3-[4-[[[4'-[[1-oxo-5-[6-(4-sulfobutoxy)-2-[[3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]pentyl]amino]-2,2'-disulfo[1,1'-biphenyl]-4-yl]carbonyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), monosodium salt, compd. with N-ethyl-N-(1-methylethyl)-2-propanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

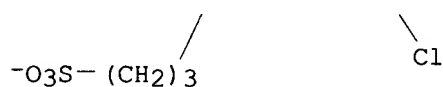
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CMF C68 H67 Cl N6 O18 S9

PAGE 1-A



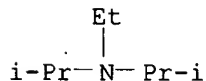
PAGE 2-A



CM 2

CRN 7087-68-5

CMF C8 H19 N

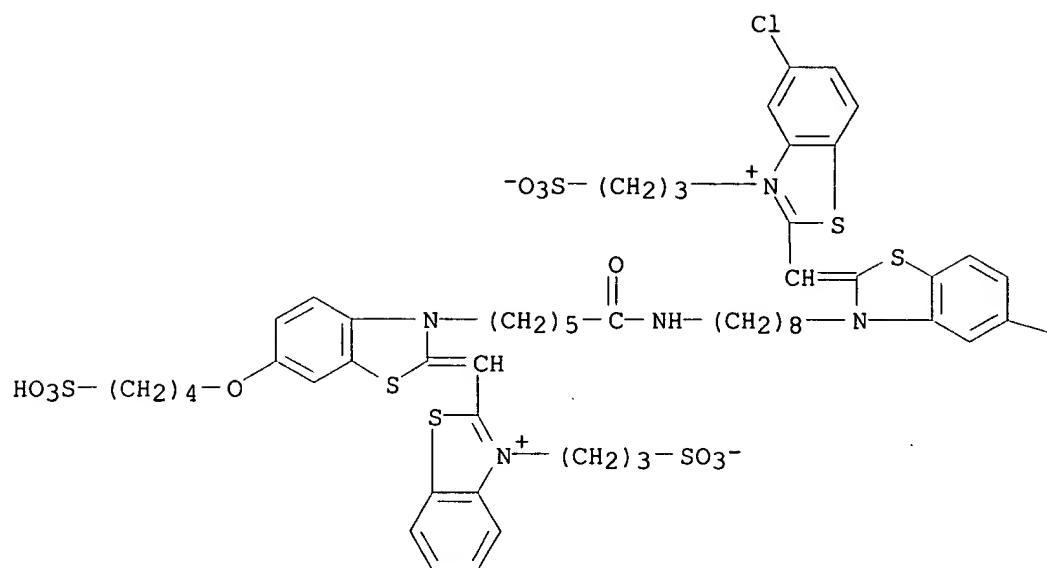


RN 405233-14-9 HCAPLUS

CN Benzothiazolium, 5-chloro-2-[[3-[8-[[1-oxo-6-[6-(4-sulfo-butoxy)-2-[[3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]hexyl]amino]octyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt),

monosodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



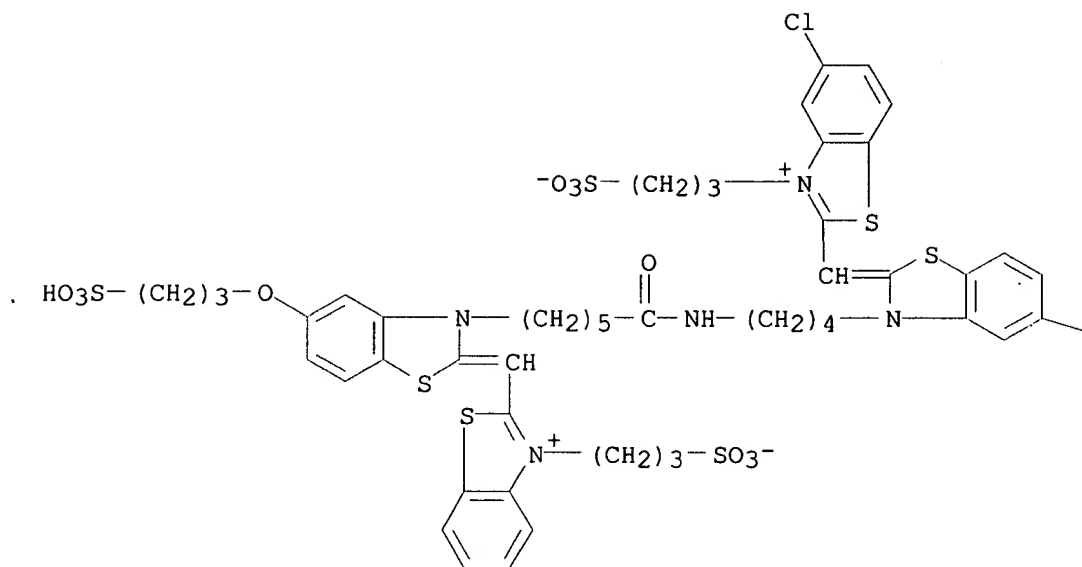
PAGE 1-B

● Na

Ph

RN 405233-15-0 HCAPLUS
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PAGE 1-A

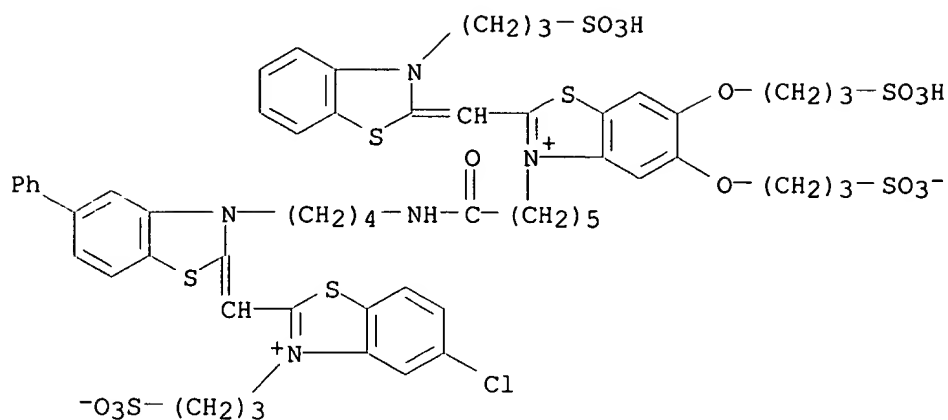


PAGE 1-B

● Na

Ph

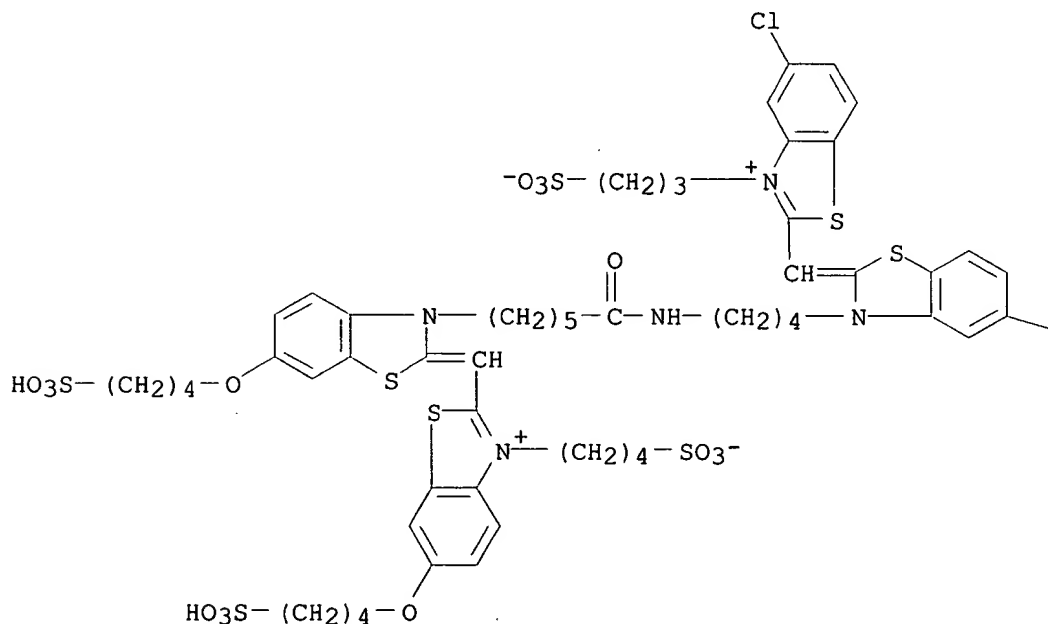
RN 405233-16-1 HCAPLUS
 CN Benzothiazolium, 3-[6-[[4-[2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-5-phenyl-3(2H)-benzothiazolyl]butyl]amino]-6-oxohexyl]-5,6-bis(3-sulfopropoxy)-2-[[3-(3-sulfopropyl)-2(3H)-benzothiazolylidene]methyl]-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 405233-18-3 HCAPLUS
 CN Benzothiazolium, 5-chloro-2-[[3-[4-[[1-oxo-6-[6-(4-sulfobutoxy)-2-[[6-(4-sulfobutoxy)-3-(4-sulfobutyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]hexyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

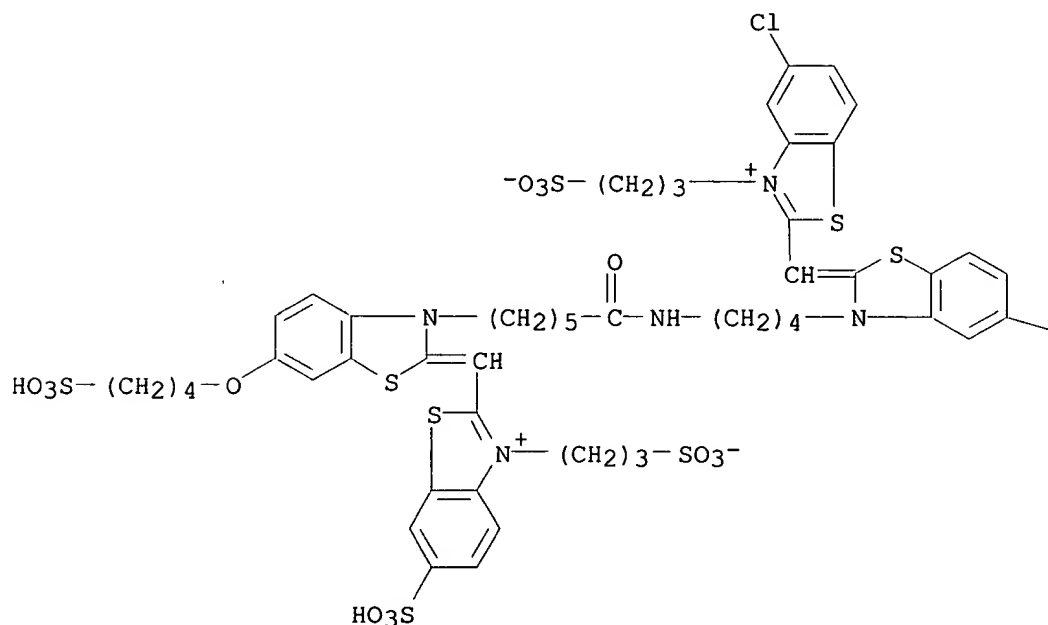


PAGE 1-B

Ph ● 2 Na

RN 405233-20-7 HCAPLUS
 CN Benzothiazolium, 5-chloro-2-[[3-[4-[[1-oxo-6-[6-(4-sulfobutoxy)-2-[[6-sulfo-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]hexyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



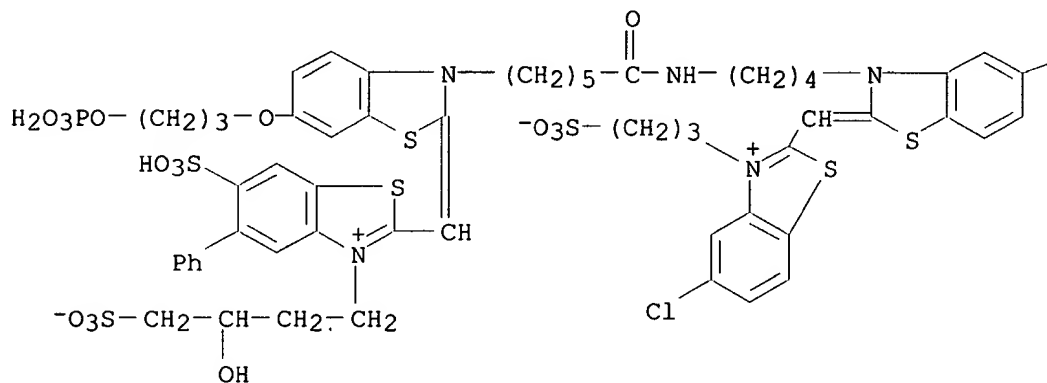
PAGE 1-B

Ph ● 2 Na

RN 405233-21-8 HCAPLUS

CN Benzothiazolium, 2-[[3-[6-[[4-[2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-5-phenyl-3(2H)-benzothiazolyl]butyl]amino]-6-oxohexyl]-6-[3-(phosphonooxy)propoxy]-2(3H)-benzothiazolylidene]methyl]-3-(3-hydroxy-4-sulfobutyl)-5-phenyl-6-sulfo-, bis(inner salt), trisodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 3 Na

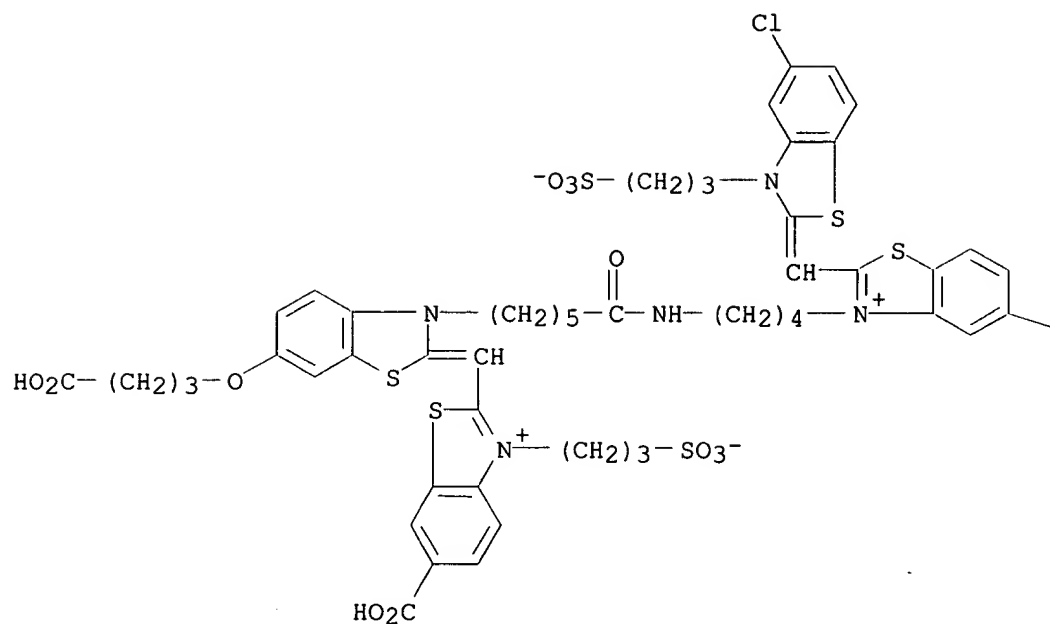
PAGE 1-B

Ph

RN 405233-22-9 HCAPLUS

CN Benzothiazolium, 3-[4-[[6-[6-(3-carboxypropoxy)-2-[[6-carboxy-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]-1-oxohexyl]amino]butyl]-2-[[5-chloro-3-(3-sulfopropyl)-2(3H)-benzothiazolylidene]methyl]-5-phenyl-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

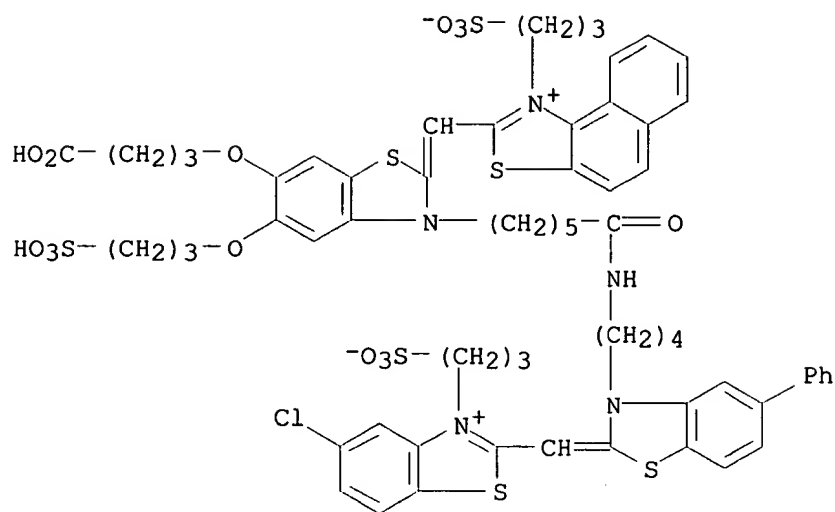


PAGE 1-B

Ph ● 2 Na

RN 405233-23-0 HCAPLUS
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PAGE 1-A

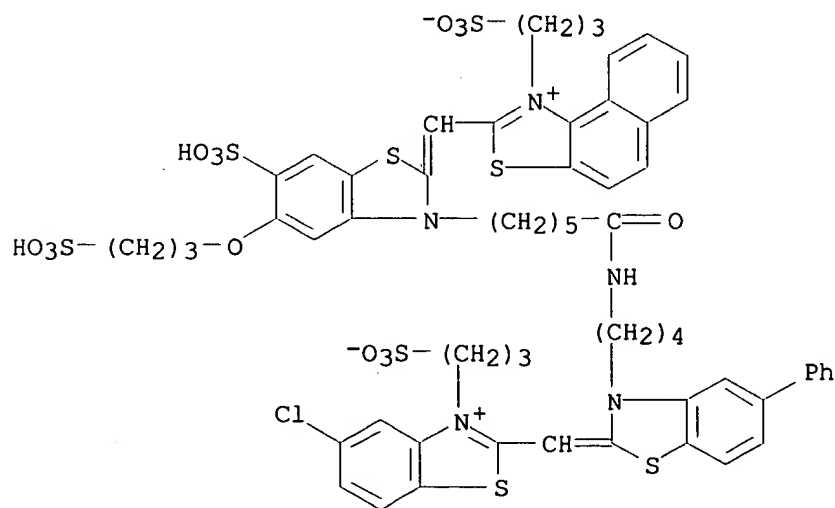


PAGE 2-A

●2 Na

RN 405233-25-2 HCAPLUS
 CN Naphtho[1,2-d]thiazolium, 2-[[[3-[6-[[[4-[2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-5-phenyl-3(2H)-benzothiazolyl]butyl]amino]-6-oxohexyl]-6-sulfo-5-(3-sulfopropoxy)-2(3H)-benzothiazolylidene]methyl]-1-(3-sulfopropyl)-, bis(inner salt), trisodium salt (9CI) (CA INDEX NAME)

PAGE 1-A

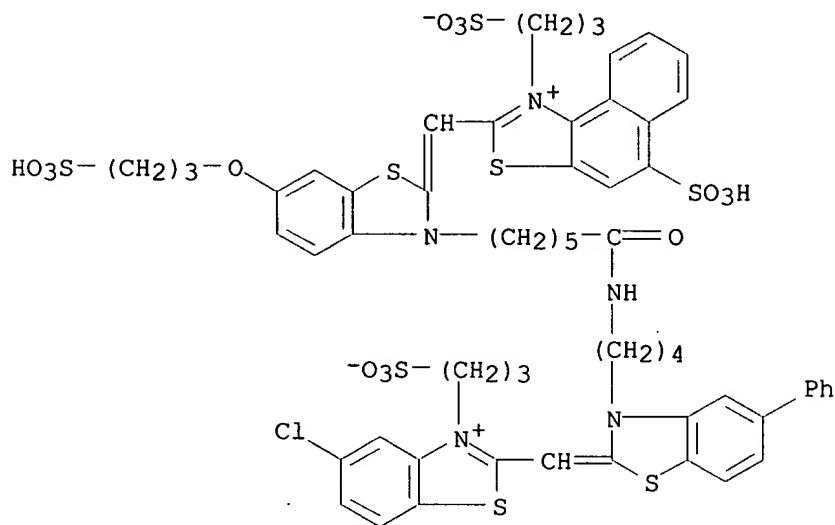


PAGE 2-A

●3 Na

RN 405233-27-4 HCAPLUS
 CN Naphtho[1,2-d]thiazolium, 2-[[3-[6-[[4-[2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-5-phenyl-3(2H)-benzothiazolyl]butyl]amino]-6-oxohexyl]-6-(3-sulfopropoxy)-2(3H)-benzothiazolylidene]methyl]-5-sulfo-1-(3-sulfopropyl)-, bis(inner salt), trisodium salt (9CI) (CA INDEX NAME)

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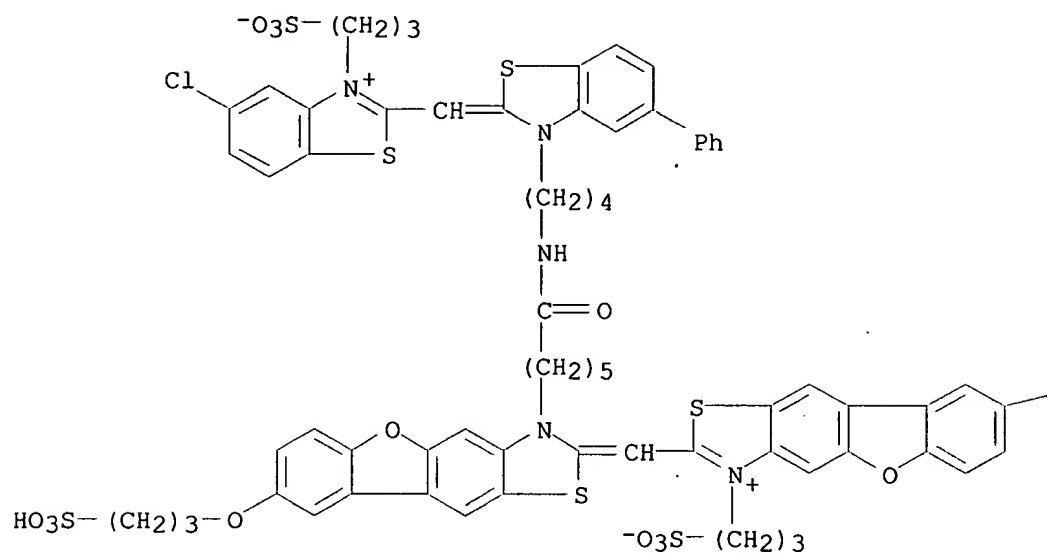


PAGE 2-A

●3 Na

RN 405233-29-6 HCAPLUS
 CN Benzofuro[2,3-f]benzothiazolium, 2-[[3-[6-[[4-[2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-5-phenyl-3(2H)-benzothiazolyl]butyl]amino]-6-oxohexyl]-8-(3-sulfopropoxy)benzofuro[2,3-f]benzothiazol-2(3H)-ylidene]methyl]-8-(3-sulfopropoxy)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

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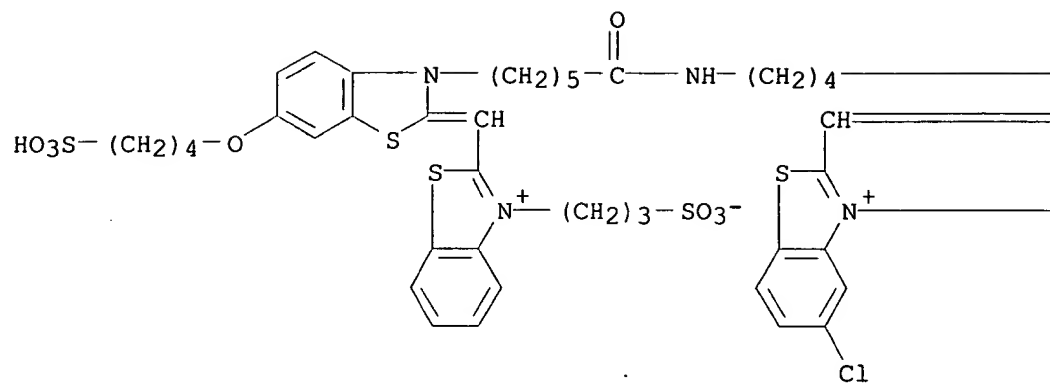
PAGE 1-B

● 2 Na

—O—(CH₂)₃—SO₃H

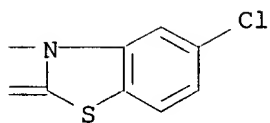
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 CN Benzothiazolium, 5-chloro-2-[[5-chloro-3-[4-[[1-oxo-6-[6-(4-sulfobutoxy)-2-[[3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]hexyl]amino]butyl]-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)

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● Na

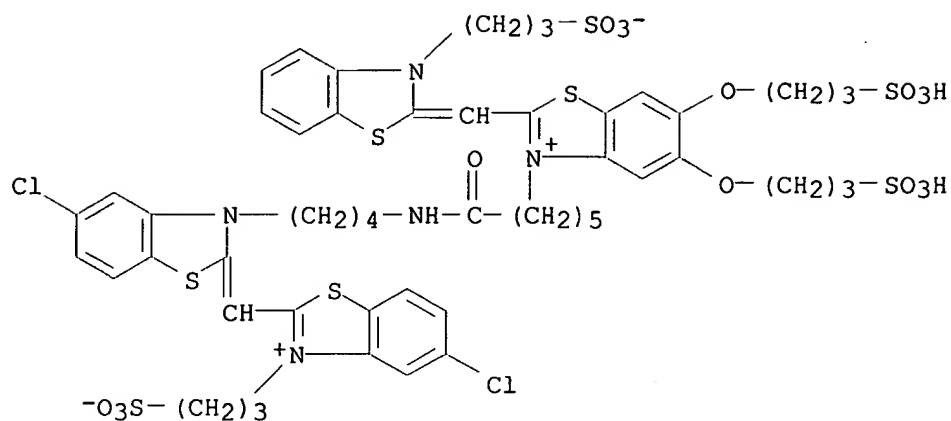
PAGE 1-B



— (CH₂)₃—SO₃⁻

RN 405233-33-2 HCAPLUS

CN Benzothiazolium, 3-[6-[[4-[5-chloro-2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]butyl]amino]-6-oxohexyl]-5,6-bis(3-sulfopropoxy)-2-[[3-(3-sulfopropyl)-2(3H)-benzothiazolylidene]methyl]-, bis(inner salt), trisodium salt (9CI) (CA INDEX NAME)

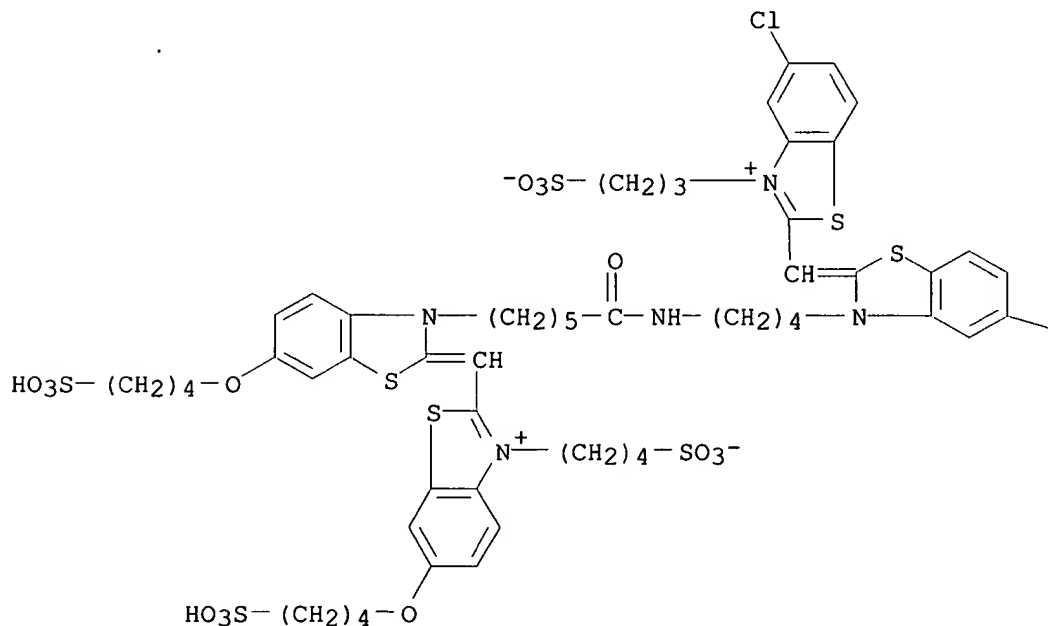


●3 Na

RN 405233-35-4 HCAPLUS

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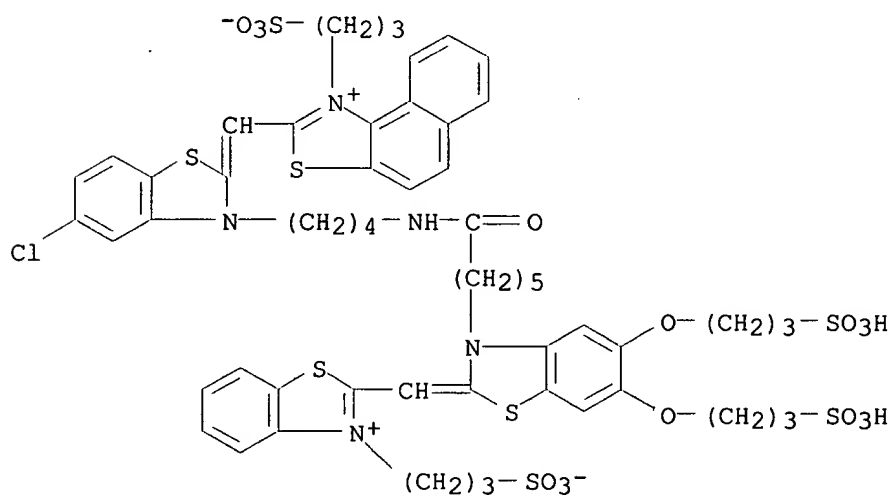
PAGE 1-A



— Cl ● 3 Na

RN 405233-38-7 HCAPLUS

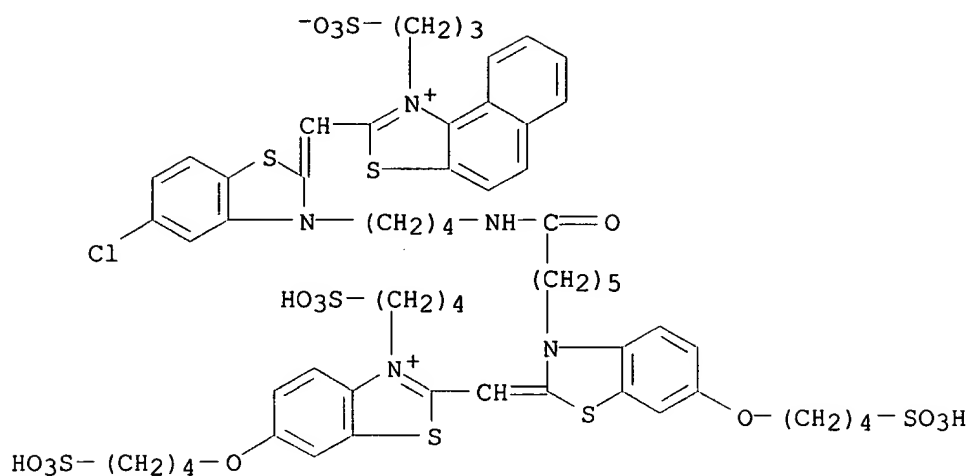
CN Naphtho[1,2-d]thiazolium, 2-[[3-[4-[[6-[5,6-bis(3-sulfopropoxy)-2-[[3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]-1-oxohexyl]amino]butyl]-5-chloro-2(3H)-benzothiazolylidene]methyl]-1-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)



● Na

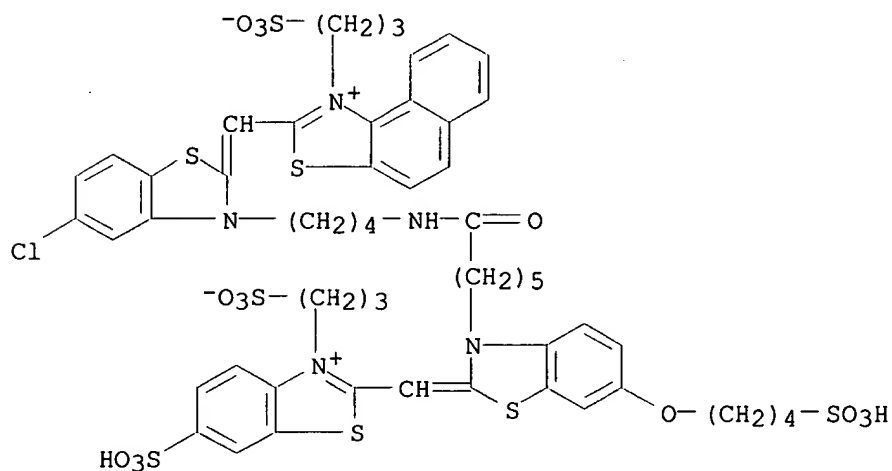
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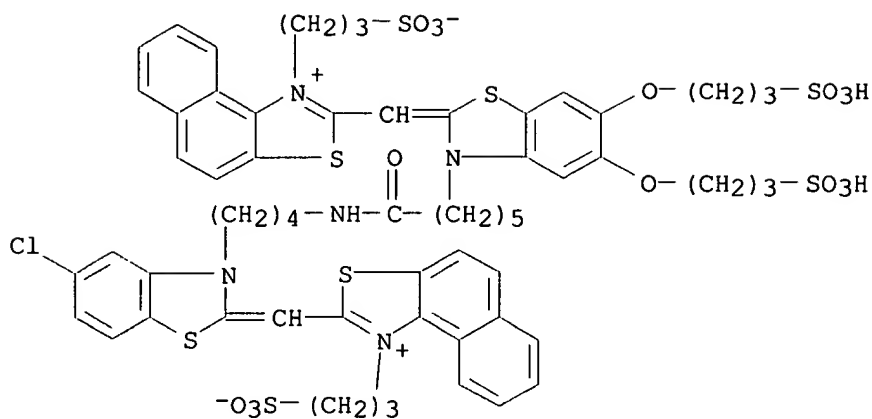
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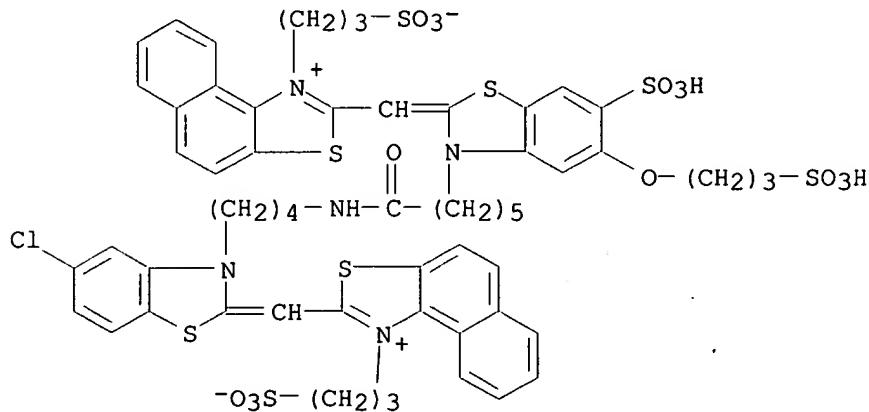
●2 Na

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● 2 Na

RN 405233-42-3 HCAPLUS
 CN Naphtho[1,2-d]thiazolium, 2-[[5-chloro-3-[4-[[1-oxo-6-[6-sulfo-5-(3-sulfopropoxy)-2-[[1-(3-sulfopropyl)naphtho[1,2-d]thiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]hexyl]amino]butyl]-2(3H)-benzothiazolylidene]methyl]-1-(3-sulfopropyl)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)



● 2 Na

L22 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:236296 HCAPLUS
 DN 136:286522
 TI Silver halide photographic emulsion containing novel methine dye
 IN Takizawa, Hiroo
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 38 pp.
 CODEN: JKXXAF

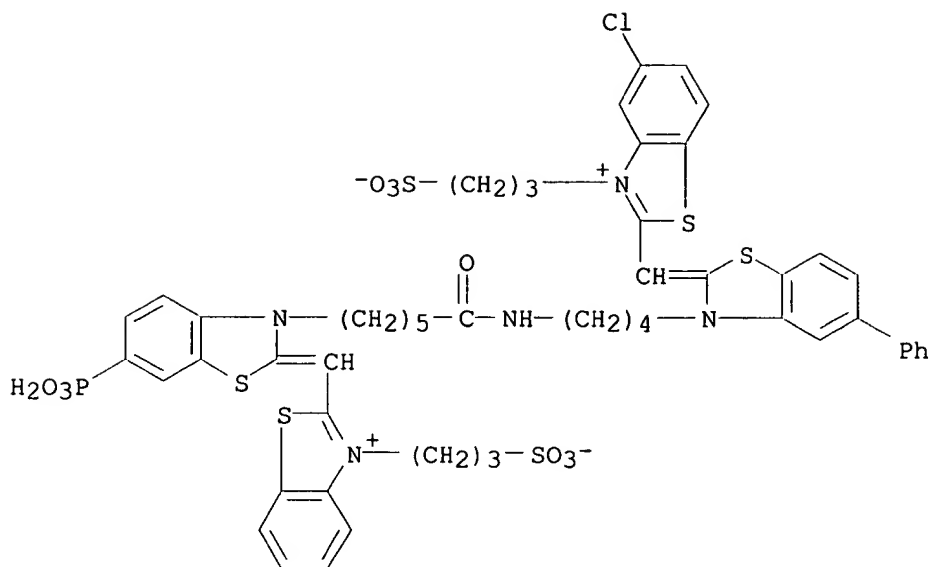
applicant

DT Patent
 LA Japanese
 IC ICM G03C001-12
 ICS C09B023-00; G03C001-14
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 41

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002090928	A2	20020327	JP 2000-282029	20000918
OS	MARPAT 136:286522				
AB	The invention relates to a methine dye contained a Ag halide emulsion, in which the methine dye contains 2 color-forming group, DYel and Dye2, bonded together. The methine dye is represented by Dye1[L(Dye2(R1)m1)m2]m3 (Dye1 = 1st color-forming group; Dye2 = 2nd color-forming group; R1 = PO3M2, OPO3M2; M = proton, cation; L = bonding group; m1 = 1-4; m2 = 1-5; and m3 = 1-5).				
ST	silver halide photog emulsion methine dye coupler				
IT	Cyanine dyes Photographic couplers Photographic emulsions (novel methine dye contained in silver halide photog. emulsion)				
IT	405160-20-5	405519-06-4	RL: RCT (Reactant); RACT (Reactant or reagent) (novel methine dye contained in silver halide photog. emulsion)		
IT	405519-07-5P RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (novel methine dye contained in silver halide photog. emulsion)				
IT	405519-08-6	405519-09-7	405519-11-1	405519-12-2	
	405519-13-3	405519-14-4	405519-15-5		
	405519-16-6	405519-17-7	405519-18-8		
	405519-19-9	405519-20-2	405519-21-3		
	405519-22-4	405519-23-5	405519-25-7	405519-26-8	
	405519-27-9	405519-28-0	405519-29-1		
	405519-30-4	405519-31-5			
	RL: TEM (Technical or engineered material use); USES (Uses) (novel methine dye contained in silver halide photog. emulsion)				
IT	405519-07-5P RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (novel methine dye contained in silver halide photog. emulsion)				
RN	405519-07-5 HCAPLUS				
CN	Benzothiazolium, 5-chloro-2-[[3-[4-[[1-oxo-6-[6-phosphono-2-[[3-(3-sulfopropyl)benzothiazolium-2-yl)methyl]-3(2H)-benzothiazolyl]hexyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)				

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●2 Na

IT 405519-11-1 405519-12-2 405519-13-3
 405519-15-5 405519-16-6 405519-17-7
 405519-18-8 405519-19-9 405519-20-2
 405519-21-3 405519-23-5 405519-26-8
 405519-27-9 405519-28-0 405519-29-1
 405519-30-4

RL: TEM (Technical or engineered material use); USES (Uses)
 (novel methine dye contained in silver halide photog. emulsion)

RN 405519-11-1 HCAPLUS

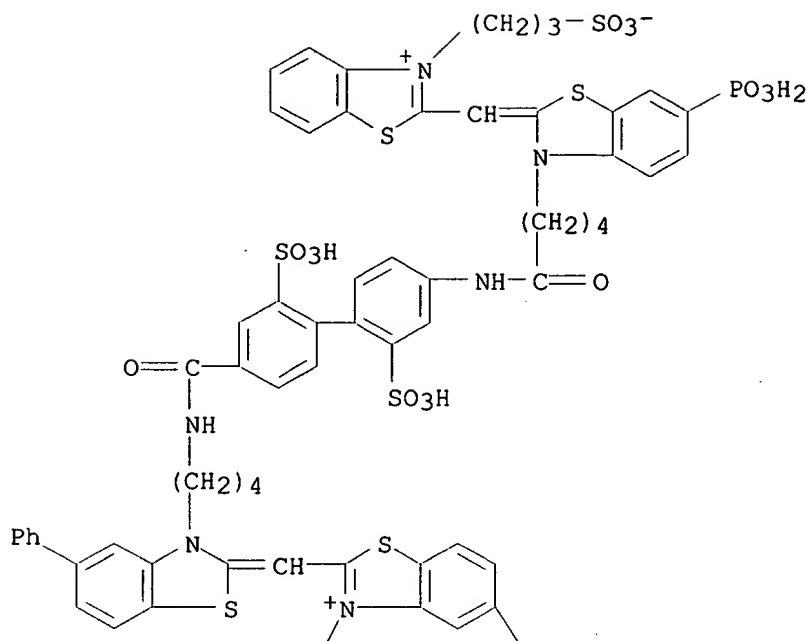
CN Benzothiazolium, 5-chloro-2-[[3-[4-[[[4'-[[1-oxo-5-[6-phosphono-2-[[3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]pentyl]amino]-2,2'-disulfo[1,1'-biphenyl]-4-yl]carbonyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), disodium salt, compd with N-ethyl-N-(1-methylethyl)-2-propanamine (1:2) (9CI) (CA INDEX NAME)

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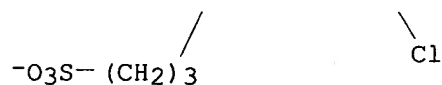
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CMF C64 H60 Cl N6 O17 P S8

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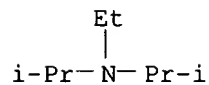
PAGE 2-A



CM 2

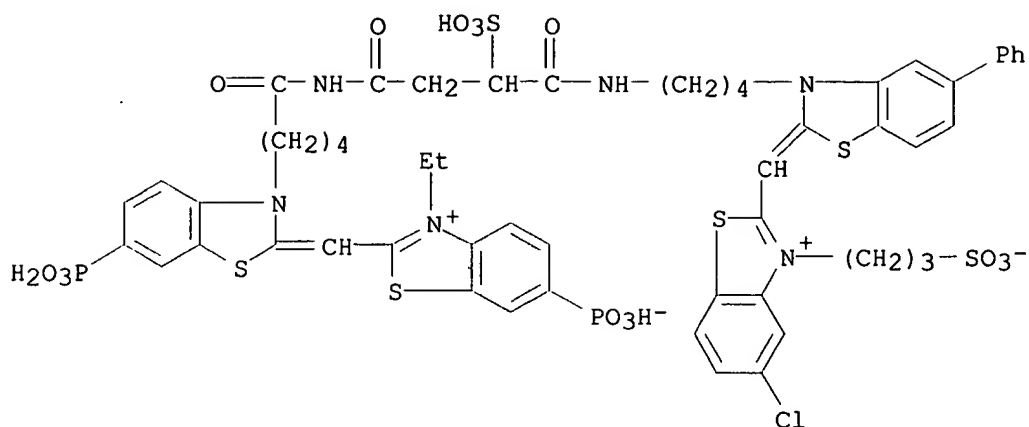
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RN 405519-12-2 HCAPLUS

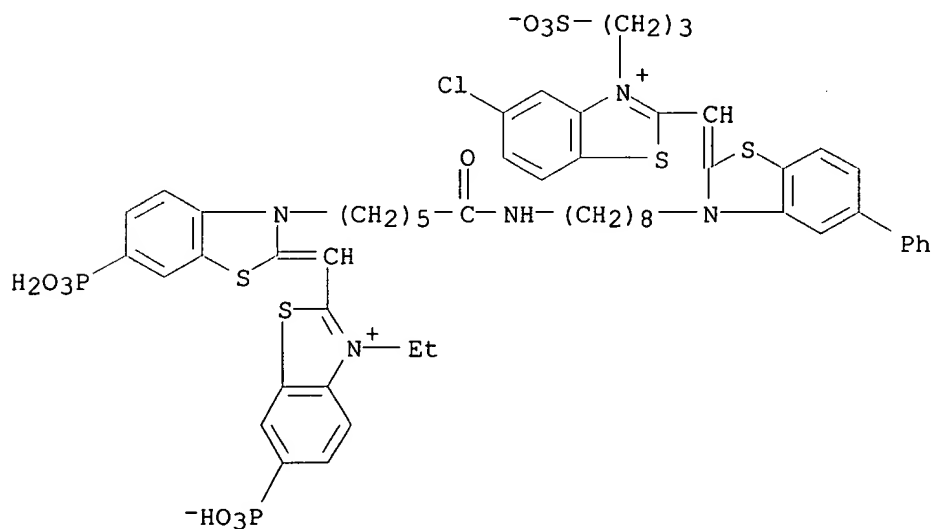
CN Benzothiazolium, 5-chloro-2-[[3-[4-[[4-[[5-[2-[(3-ethyl-6-phosphonobenzothiazolium-2-yl)methyl]-6-phosphono-3(2H)-benzothiazolyl]-1-oxopentyl]amino]-1,4-dioxo-2-sulfo-butyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

RN 405519-13-3 HCAPLUS
 CN Benzothiazolium, 5-chloro-2-[[3-[8-[[6-[2-[(3-ethyl-6-phosphonobenzothiazolium-2-yl)methyl]-6-phosphono-3(2H)-benzothiazolyl]-1-oxohexyl]amino]octyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), trisodium salt (9CI) (CA INDEX NAME)

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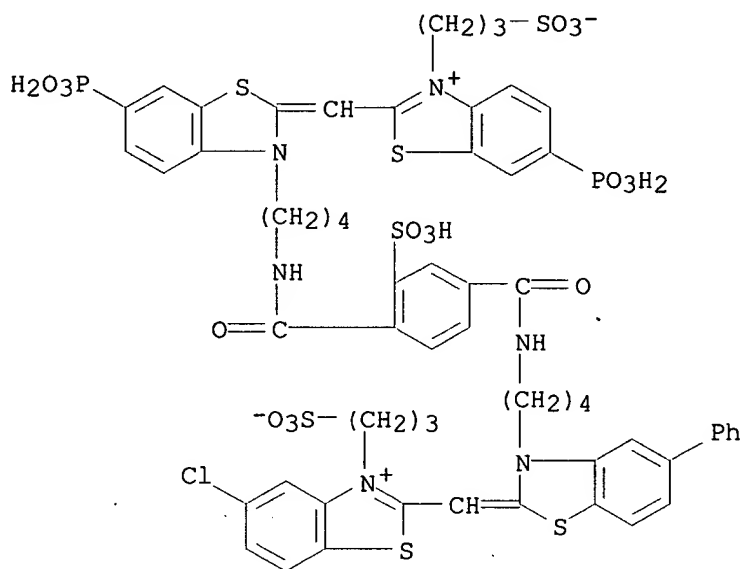
PAGE 2-A

● 3 Na

RN 405519-15-5 HCAPLUS
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benzothiazolyl]butyl]amino]carbonyl]-3-sulfobenzoyl]amino]butyl]-2(3H)-
benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt),
pentasodium salt (9CI) (CA INDEX NAME)

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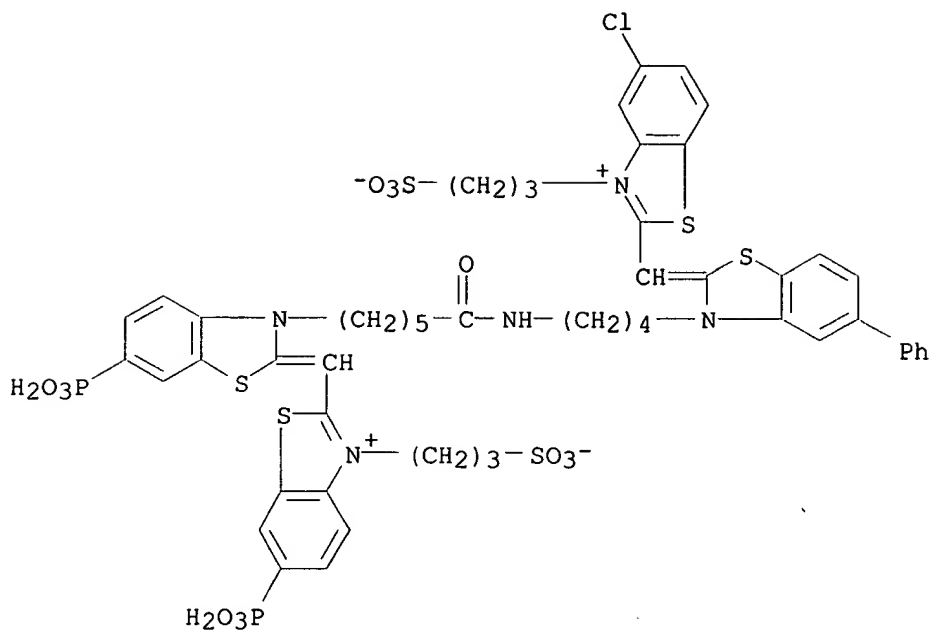


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● 5 Na

RN 405519-16-6 HCAPLUS
CN Benzothiazolium, 5-chloro-2-[[3-[4-[[1-oxo-6-[6-phosphono-2-[[6-phosphono-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]hexyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), tetrasodium salt (9CI) (CA INDEX NAME)

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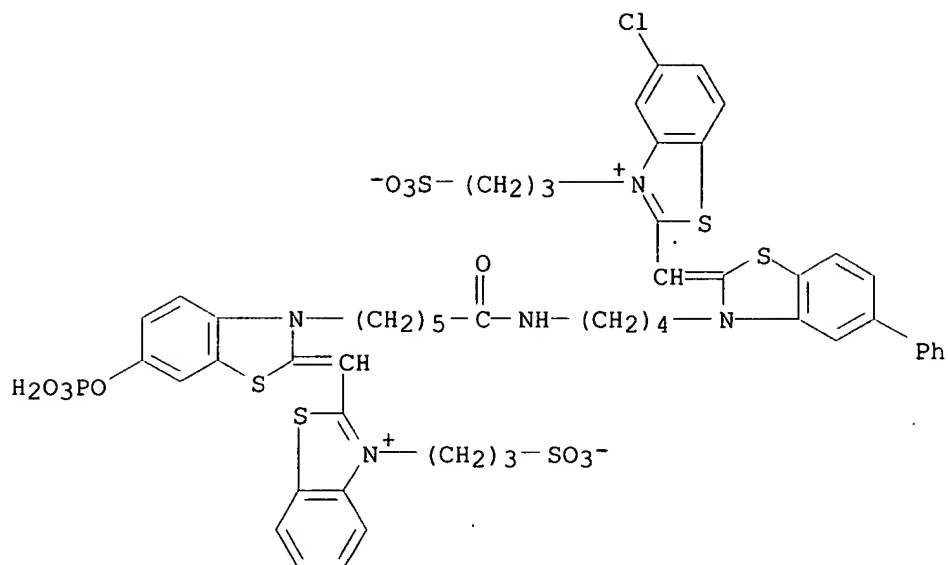


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●4 Na

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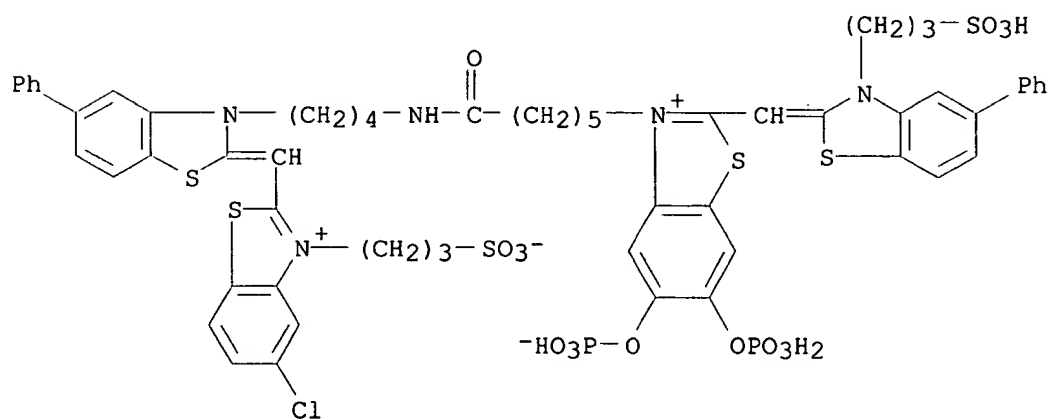
PAGE 1-A



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●2 Na

RN 405519-18-8 HCAPLUS
 CN Benzothiazolium, 3-[6-[[4-[2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-5-phenyl-3(2H)-benzothiazolyl]butyl]amino]-6-oxohexyl]-2-[[5-phenyl-3-(3-sulfopropyl)-2(3H)-benzothiazolylidene]methyl]-5,6-bis(phosphonooxy)-, bis(inner salt), tetrasodium salt (9CI) (CA INDEX NAME)

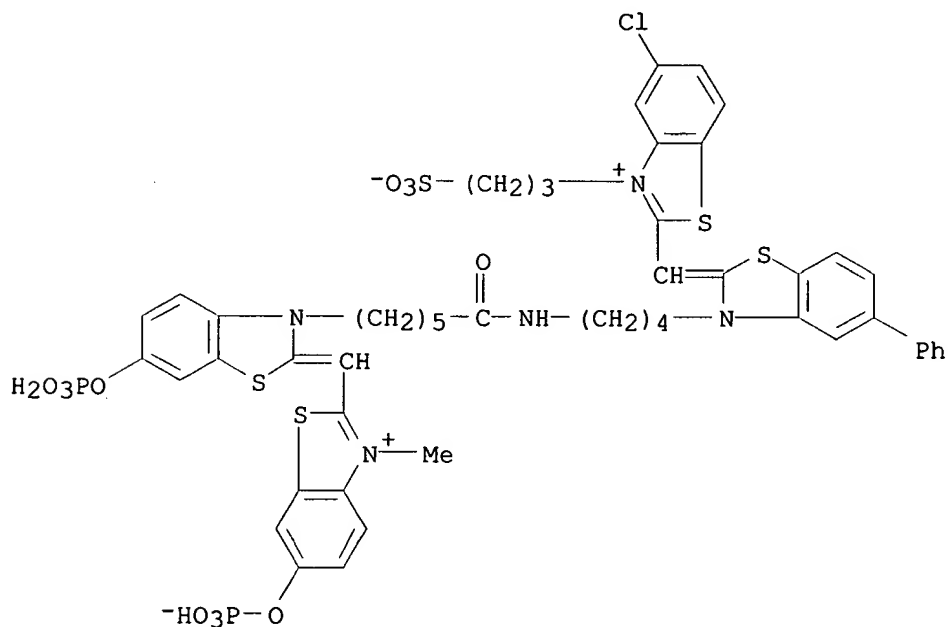


●4 Na

RN 405519-19-9 HCAPLUS

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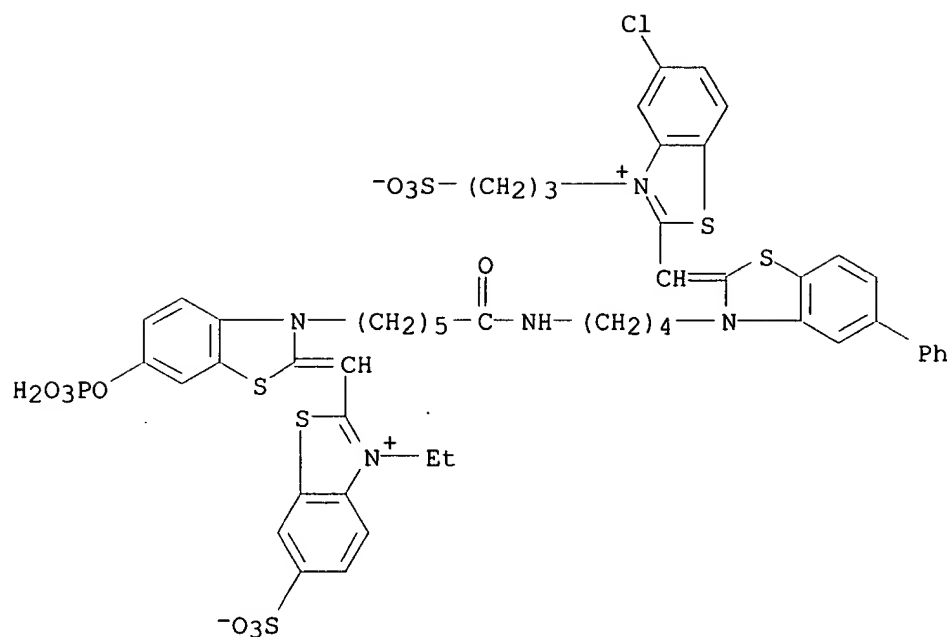
PAGE 2-A

● 3 Na

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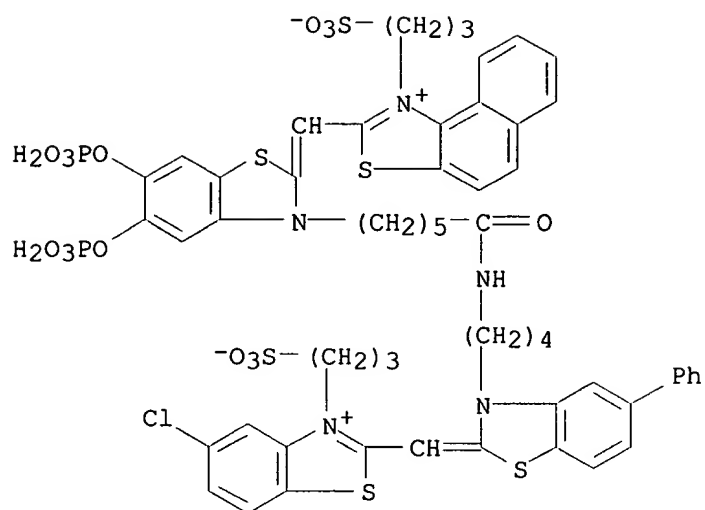


PAGE 2-A

● 2 Na

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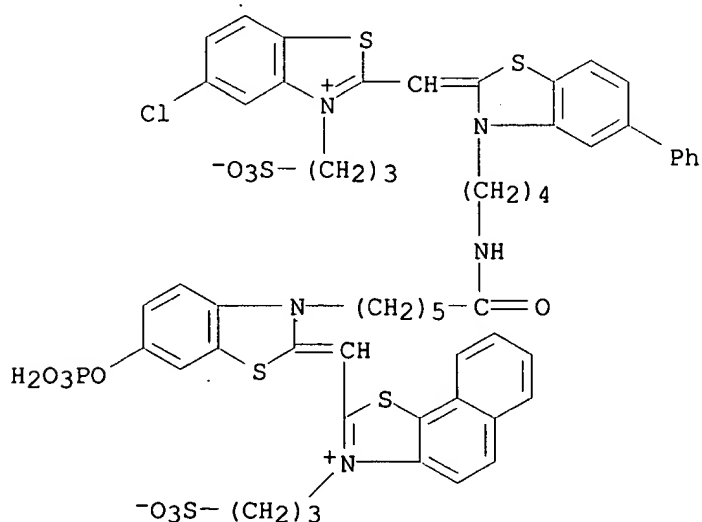


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● 4 Na

RN 405519-23-5 HCAPLUS
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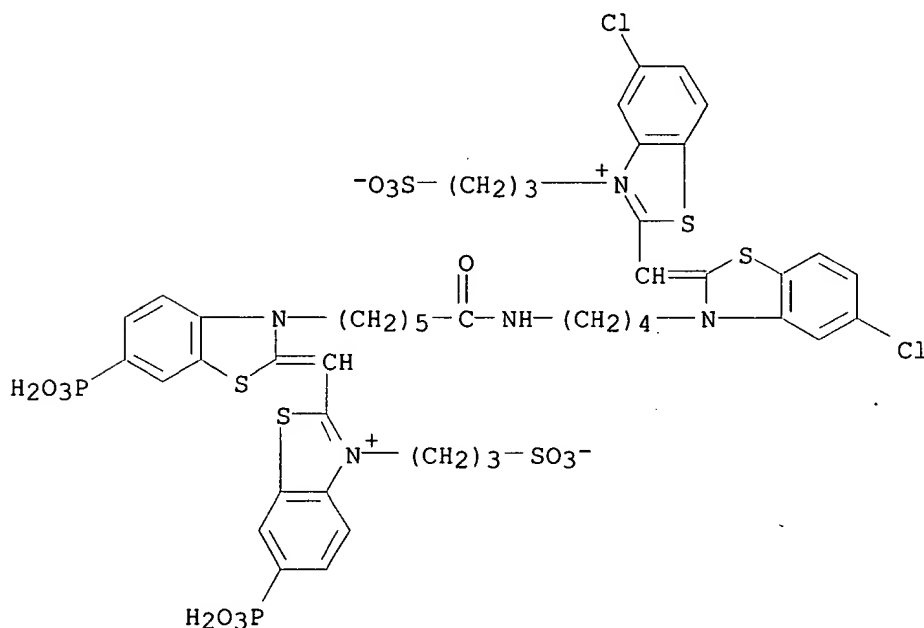


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●2 Na

RN 405519-26-8 HCAPLUS
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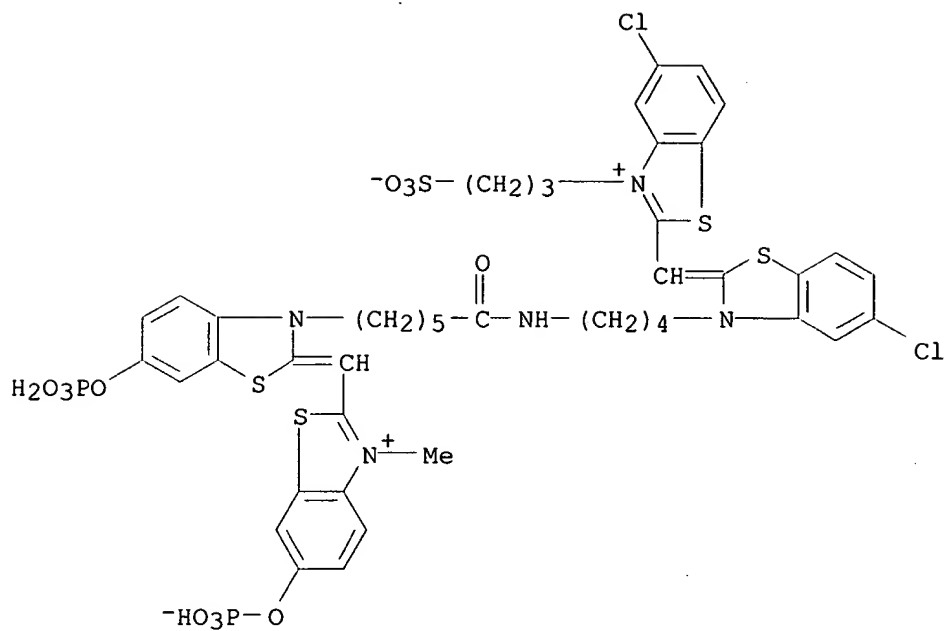


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●4 Na

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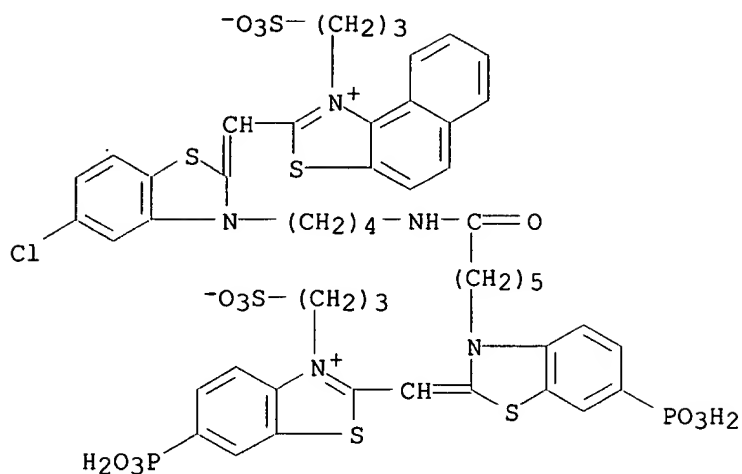
PAGE 1-A



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● 3 Na

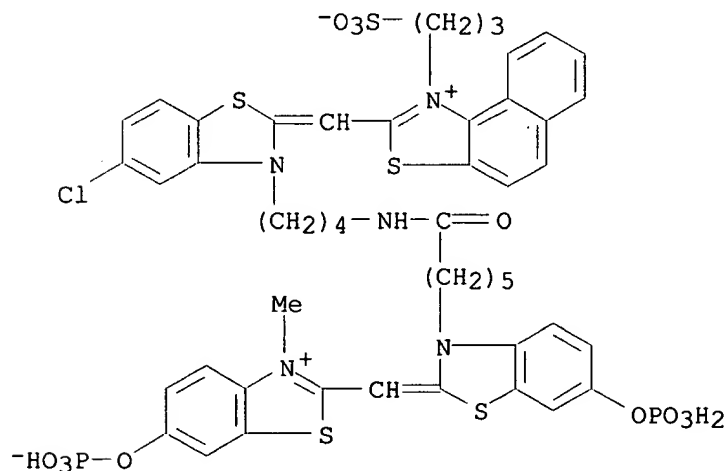
RN 405519-28-0 HCAPLUS
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●4 Na

RN 405519-29-1 HCAPLUS

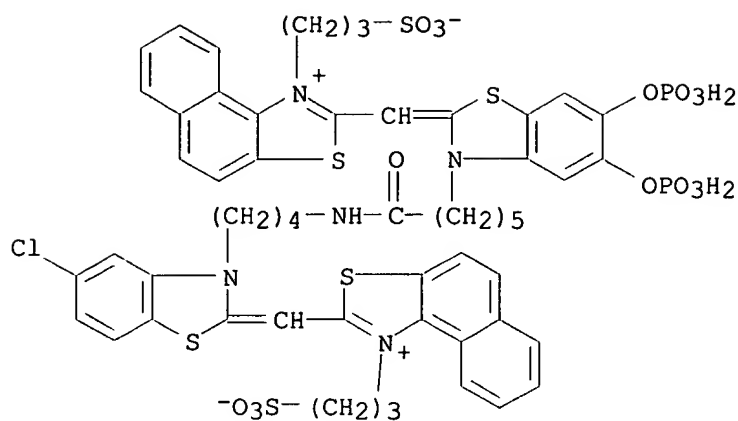
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●3 Na

RN 405519-30-4 HCAPLUS

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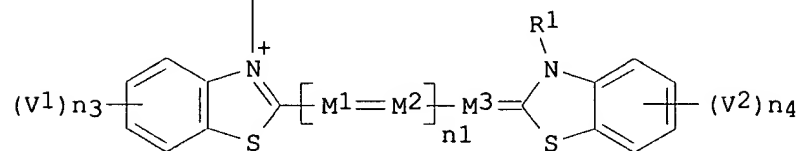
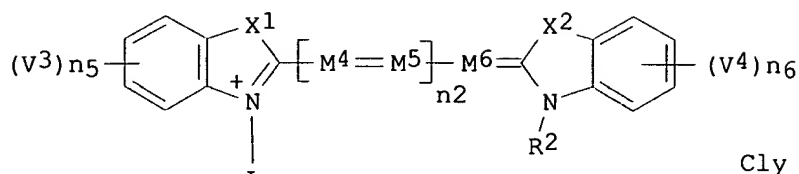
● 4 Na

L22 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:219903 HCAPLUS
 DN 136:270414
 TI Linked methine sensitizing dyes and high-sensitivity silver halide
 photographic materials using them
 IN Takizawa, Hiroo
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 29 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03C001-14
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002082405	A2	20020322	JP 2000-268925	20000905
	US 2002086250	A1	20020704	US 2001-842086	20010426
	CN 1321916	A	20011114	CN 2001-115466	20010427
PRAI	JP 2000-128040	A	20000427		
	JP 2000-244785	A	20000811		
	JP 2000-268925	A	20000905		
	JP 2000-282028	A	20000918		
OS	MARPAT 136:270414				
GI					

Dye2

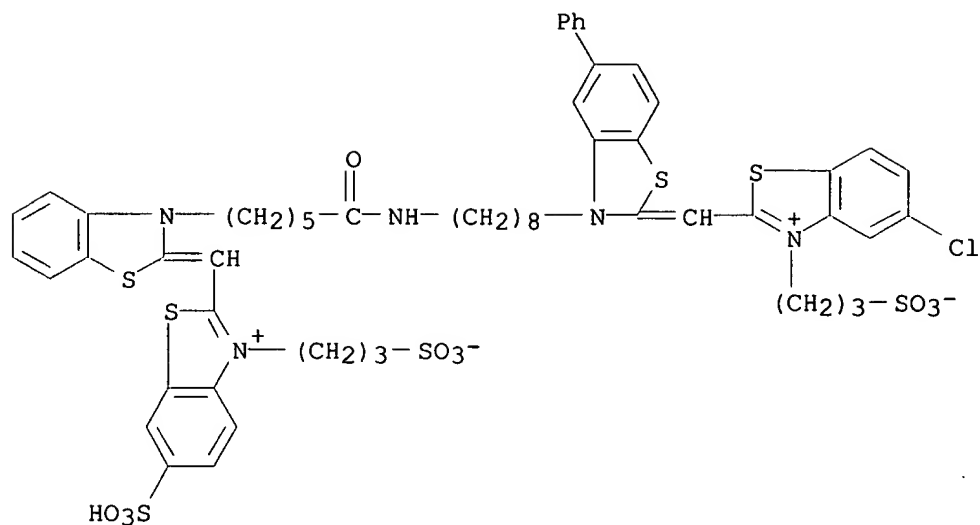


Dye1

I

- AB The photog. material has silver halide photog. emulsions contg. sensitizing dyes I (X1, X2 = O, S, NR3; R1-3 = H, alkyl, alkenyl, aryl, hetero ring group; M1-6 = methine; n1, n2 = 0-3; L = linking group; V1-4 = substituent; n3-6 = 0-4; CI = counter ion; y = no. for neutralizing the charge).
- ST photog sensitizer linked methine dye benzothiazole
- IT Cyanine dyes
Photographic emulsions
Photographic sensitizers
(linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)
- IT 400881-86-9 405145-00-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)
- IT 405145-01-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)
- IT 405145-02-0 405145-03-1 405145-04-2
405145-05-3 405145-06-4 405145-07-5 405145-08-6
405145-09-7 405145-10-0 405145-11-1 405145-12-2
405145-13-3 405145-14-4 405145-15-5
405145-16-6 405145-17-7 405145-18-8 405145-19-9
405145-20-2 405145-21-3
RL: TEM (Technical or engineered material use); USES (Uses)
(sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)
- IT 405145-01-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)
- RN 405145-01-9 HCAPLUS
- CN Benzothiazolium, 5-chloro-2-[[3-[8-[[1-oxo-6-[2-[[6-sulfo-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]hexyl]amino]octyl]-5-phenyl-2(3H)-benzothiazolyldene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)

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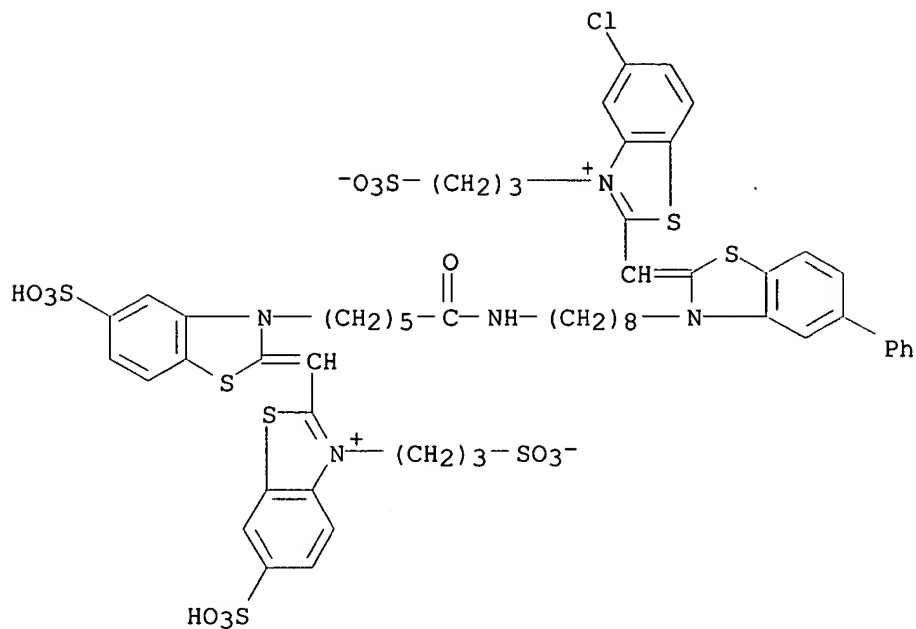


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● Na

IT 405145-02-0 405145-03-1 405145-04-2
 405145-07-5 405145-08-6 405145-09-7
 405145-12-2 405145-13-3 405145-14-4
 405145-15-5 405145-16-6 405145-17-7
 RL: TEM (Technical or engineered material use); USES (Uses)
 (sensitizing dye; linked methine sensitizing dyes for high-sensitivity
 silver halide photog. materials)
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 benzothiazolyl]hexyl]amino]octyl]-5-phenyl-2(3H)-
 benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), disodium
 salt (9CI) (CA INDEX NAME)

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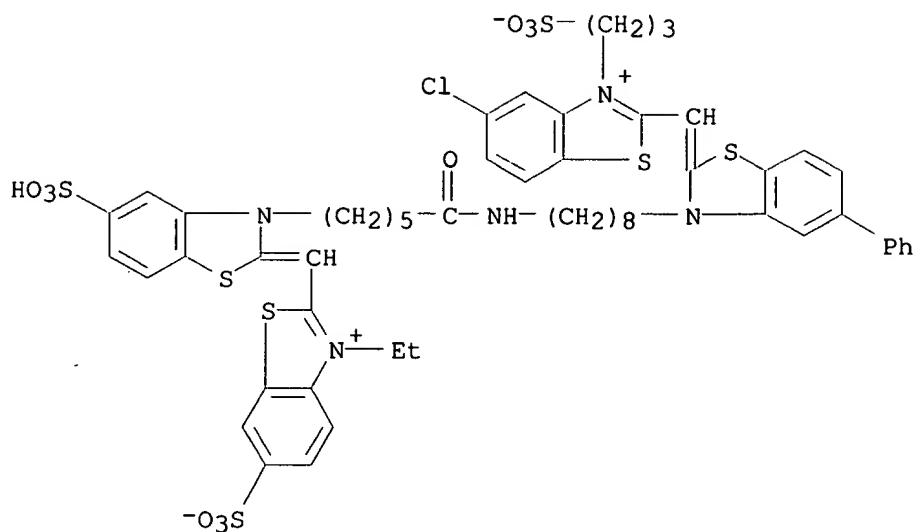


PAGE 2-A

● 2 Na

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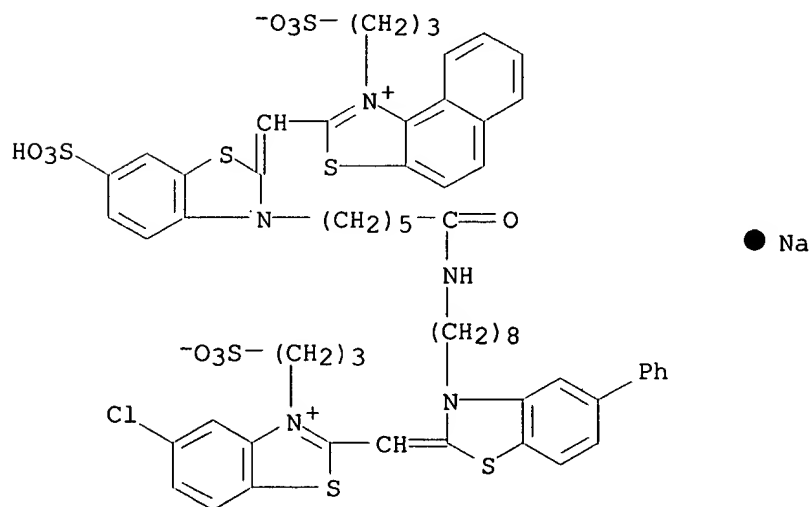
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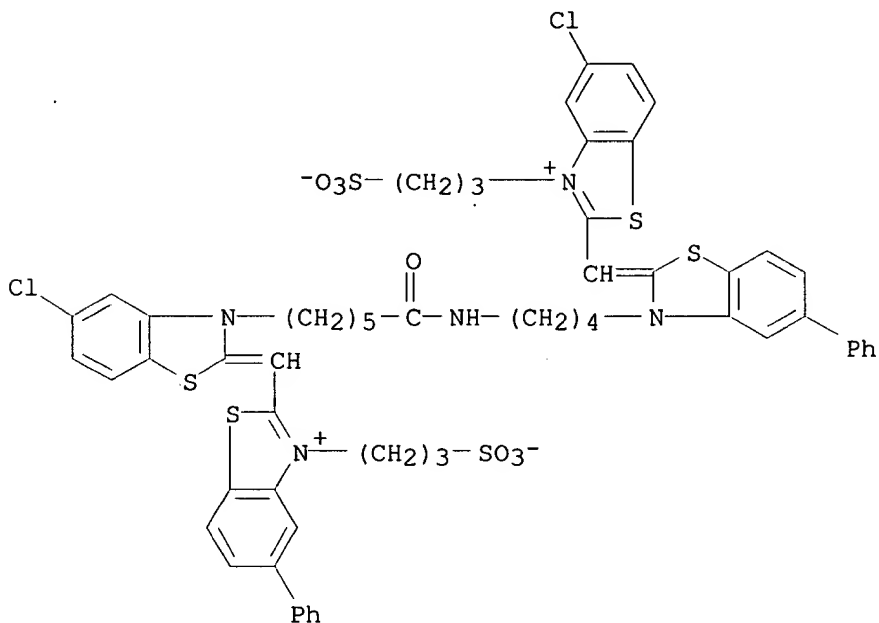


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oxohexyl]amino]octyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)

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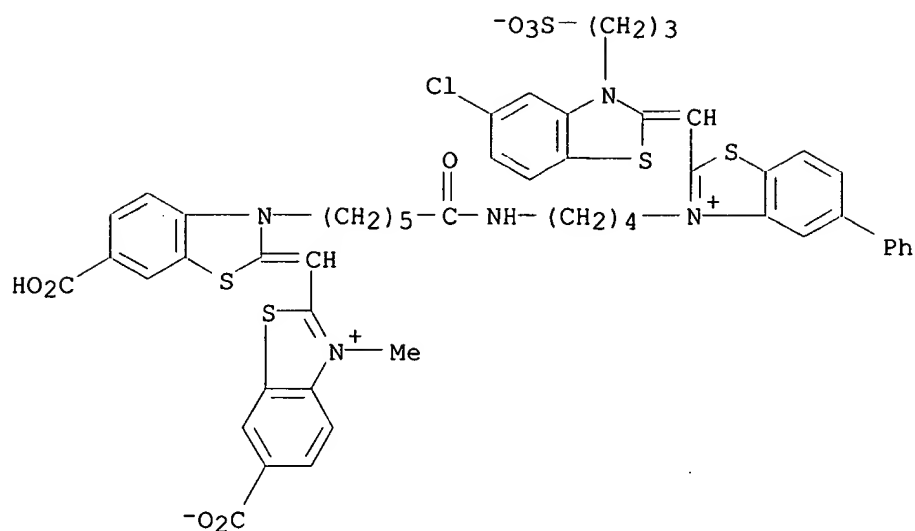


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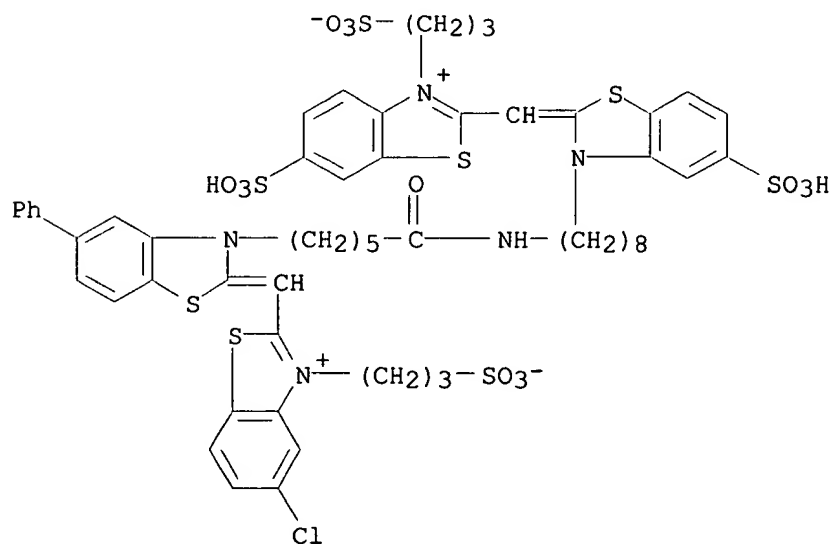
RN 405145-08-6 HCAPLUS

CN Benzothiazolium, 3-[8-[[6-[6-carboxy-2-[(6-carboxy-3-methylbenzothiazolium-2-yl)methylene]-3(2H)-benzothiazolyl]-1-oxohexyl]amino]octyl]-2-[[5-chloro-3-(3-sulfopropyl)-2(3H)-benzothiazolylidene]methyl]-5-phenyl-, bis(inner salt) (9CI) (CA INDEX NAME)



RN 405145-09-7 HCAPLUS
 CN Benzothiazolium, 5-chloro-2-[[3-[6-oxo-6-[[8-[5-sulfo-2-[[6-sulfo-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]octyl]amino]hexyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

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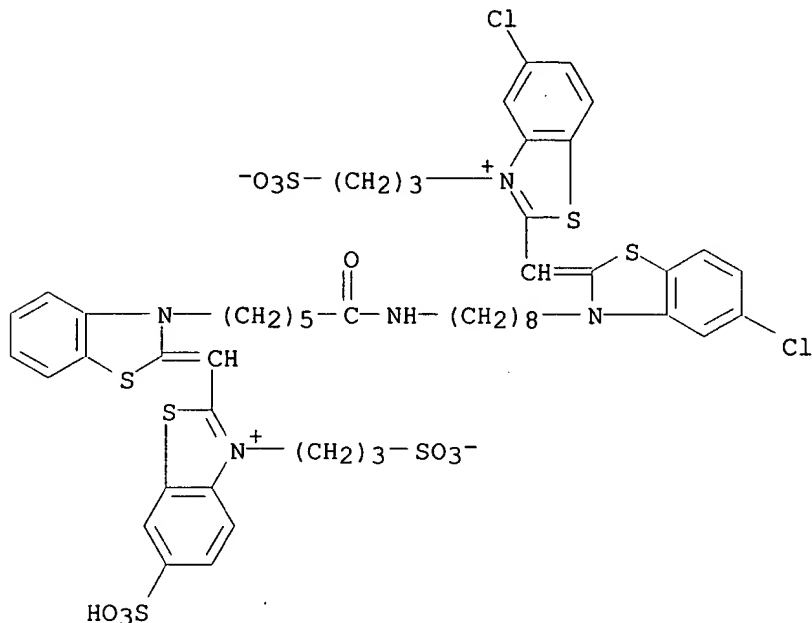
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RN 405145-12-2 HCAPLUS

KATHLEEN FULLER EIC 1700/LAW LIBRARY 308-4290

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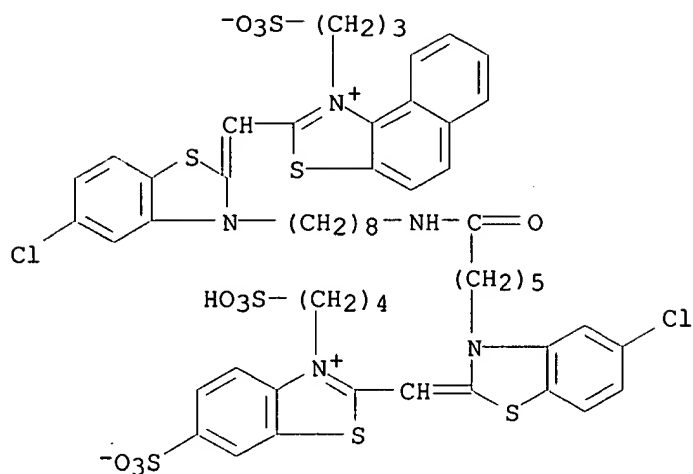


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● Na

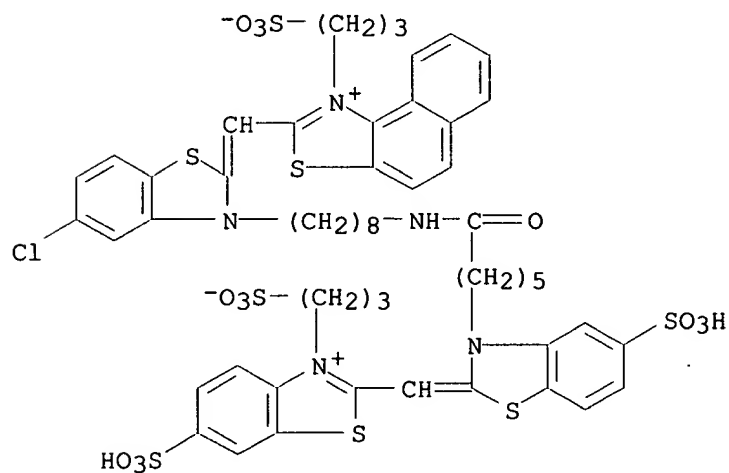
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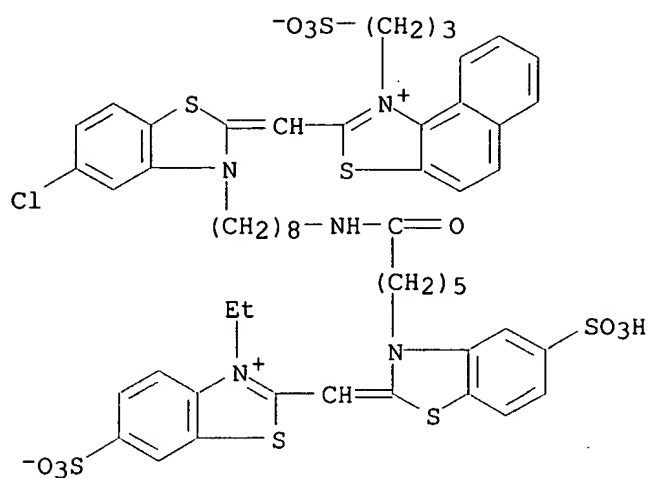
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● 2 Na

RN 405145-15-5 HCAPLUS
 CN Naphtho[1,2-d]thiazolium, 2-[[5-chloro-3-[8-[[6-[2-[(3-ethyl-6-sulfo-3(2H)-benzothiazolyl)-1-oxohexyl]amino]octyl]-2(3H)-benzothiazolylidene]methyl]-1-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)

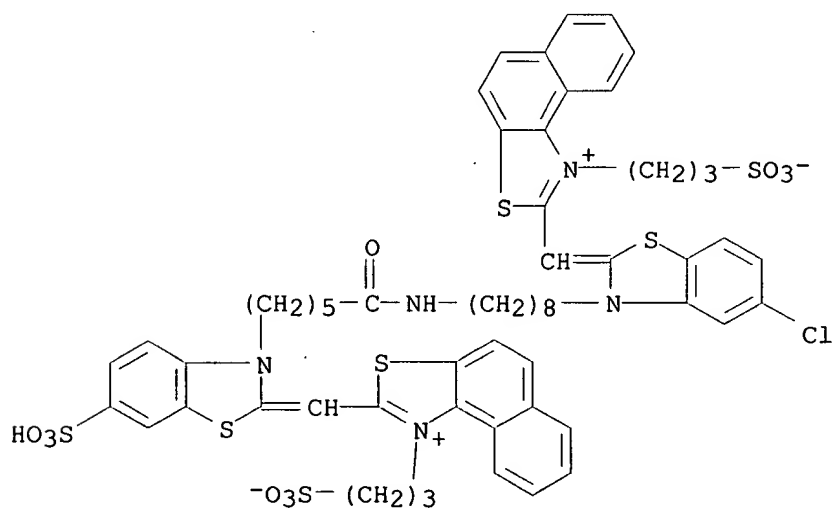


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RN 405145-16-6 HCAPLUS

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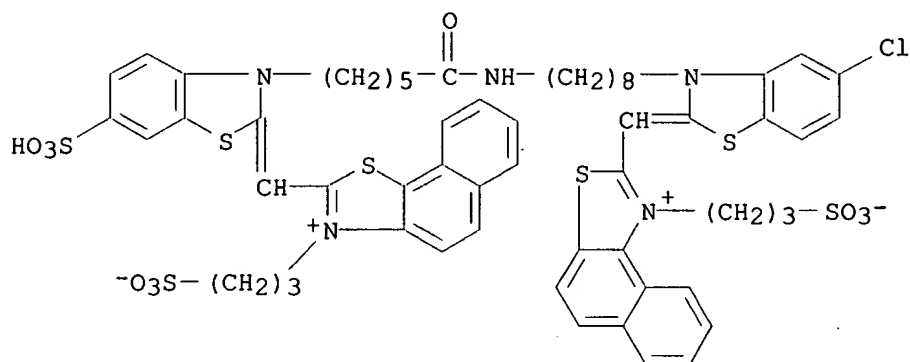
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● Na

L22 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:219902 HCAPLUS
 DN 136:270413
 TI Linked methine sensitizing dyes and high-sensitivity silver halide photographic materials using them
 IN Takizawa, Hiroo
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03C001-12
 ICS C09B023-00; G03C001-14
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002082404	A2	20020322	JP 2000-268924	20000905
	US 2002155400	A1	20021024	US 2001-943354	20010831
	CN 1347009	A	20020501	CN 2001-123662	20010903
PRAI	JP 2000-268923	A	20000905		
	JP 2000-268924	A	20000905		

OS MARPAT 136:270413

AB The photog. material has silver halide photog. emulsions contg. sensitizing dyes Dye1[L1(R1m3)Dye2m1]m2 (Dye1, Dye2 = coloring group; L1 = G1G2G3; G1, G3 = alkylene, alkenylene; G2 = linking chain contg. .gtoreq.2 arylene, heteroarylene, cycloalkylene; R1 = dissocg. group with pKa .ltoreq.5; m1, m2 = 1-5; m3 = 0-4).

ST photog sensitizer linked methine dye complex

IT Cyanine dyes

Photographic emulsions

Photographic sensitizers

(linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)

IT 405160-19-2P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)

IT 787-70-2, 4,4'-Biphenyldicarboxylic acid 405160-20-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)

IT 405160-23-8P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)

IT 405160-21-6 405160-25-0 405160-27-2
 405160-29-4 405160-31-8 405160-33-0 405160-35-2
 405160-36-3 405160-37-4 405160-38-5
 405160-39-6 405160-40-9 405160-41-0
 RL: TEM (Technical or engineered material use); USES (Uses)
 (sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)

IT 405160-23-8P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)

RN 405160-23-8 HCAPLUS

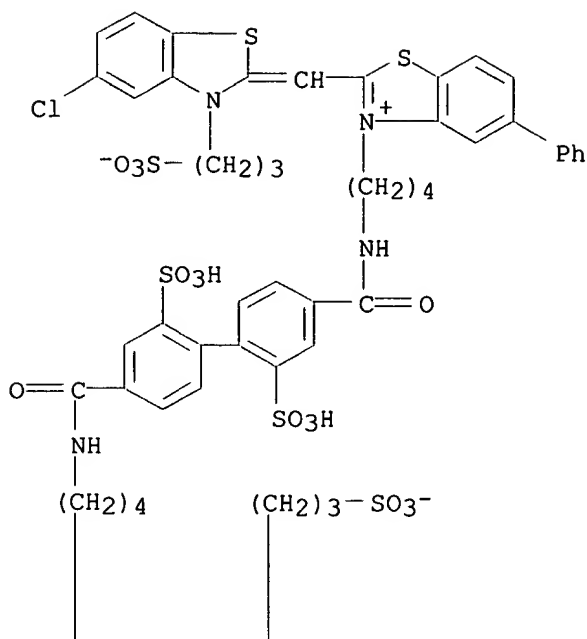
CN Benzothiazolium, 3,3'-[(2,2'-disulfo[1,1'-biphenyl]-4,4'-diyl)bis(carbonylimino-4,1-butanediyl)]bis[2-[[5-chloro-3-(3-sulfopropyl)-2(3H)-benzothiazolylidene]methyl]-5-phenyl-, bis(inner salt), compd. with N-ethyl-N-(1-methylethyl)-2-propanamine (1:2) (9CI) (CA INDEX NAME)

CM 1

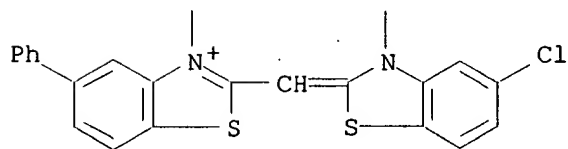
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CMF C70 H62 Cl2 N6 O14 S8

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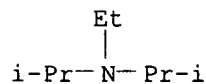
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CM 2

CRN 7087-68-5

CMF C8 H19 N



IT 405160-21-6 405160-25-0 405160-27-2
405160-29-4 405160-31-8 405160-37-4
405160-38-5 405160-39-6

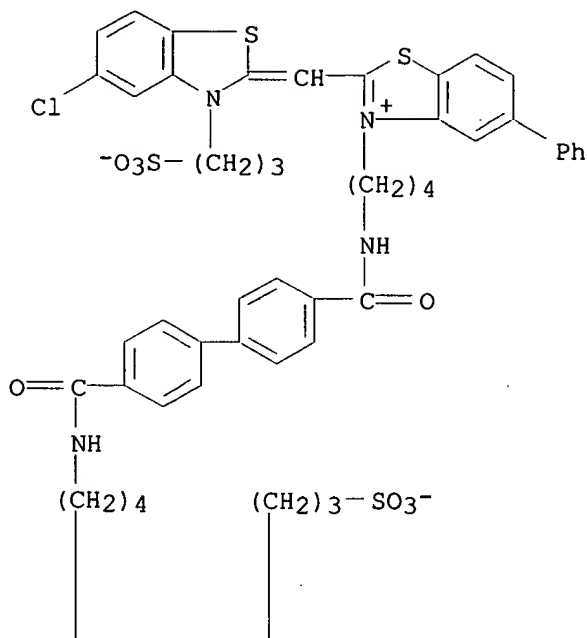
RL: TEM (Technical or engineered material use); USES (Uses)
(sensitizing dye; linked methine sensitizing dyes for high-sensitivity
silver halide photog. materials)

RN 405160-21-6 HCAPLUS

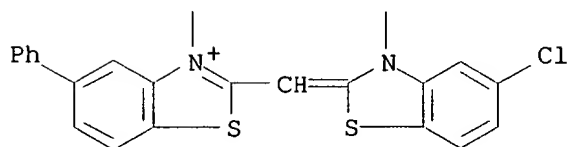
CN Benzothiazolium, 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(carbonylimino-4,1-
butanediyl)]bis[2-[[5-chloro-3-(3-sulfopropyl)-2(3H)-

benzothiazolylidene]methyl]-5-phenyl-, bis(inner salt) (9CI) (CA INDEX NAME)

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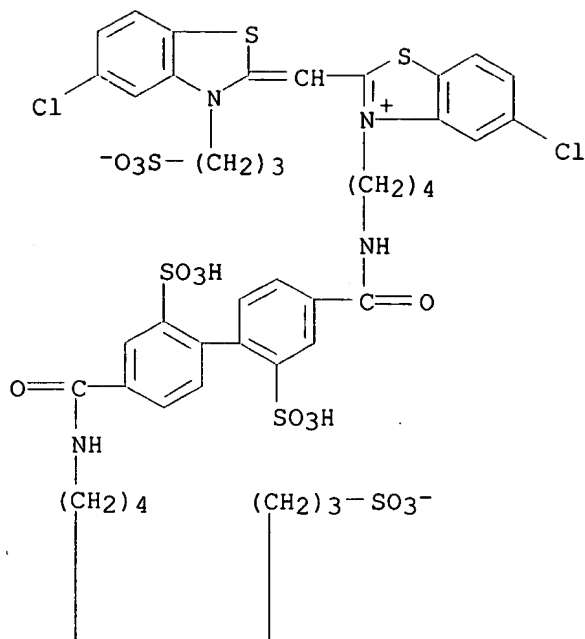


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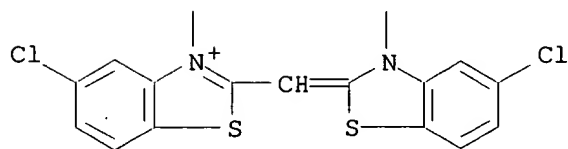
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CRN 405160-24-9
 CMF C58 H52 Cl4 N6 O14 S8

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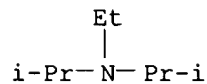
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CM 2

CRN 7087-68-5

CMF C8 H19 N



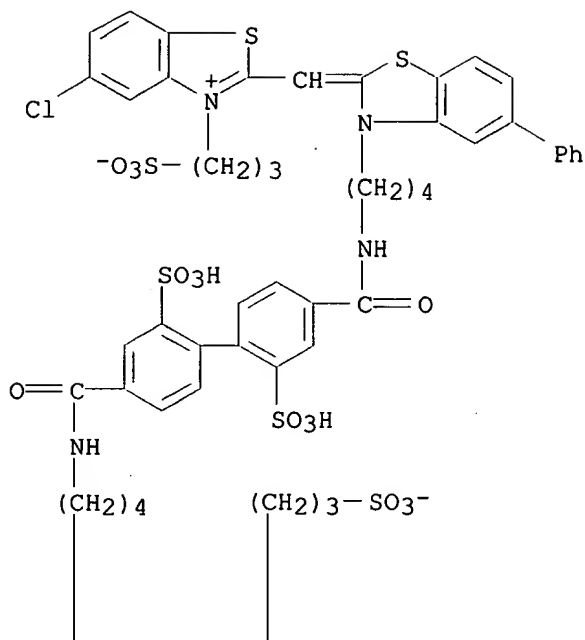
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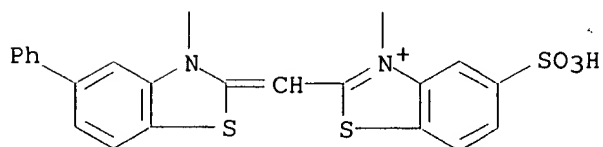
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CRN 405160-26-1
CMF C70 H63 Cl N6 O17 S9

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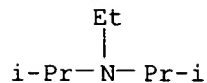


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CM 2

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CMF C8 H19 N



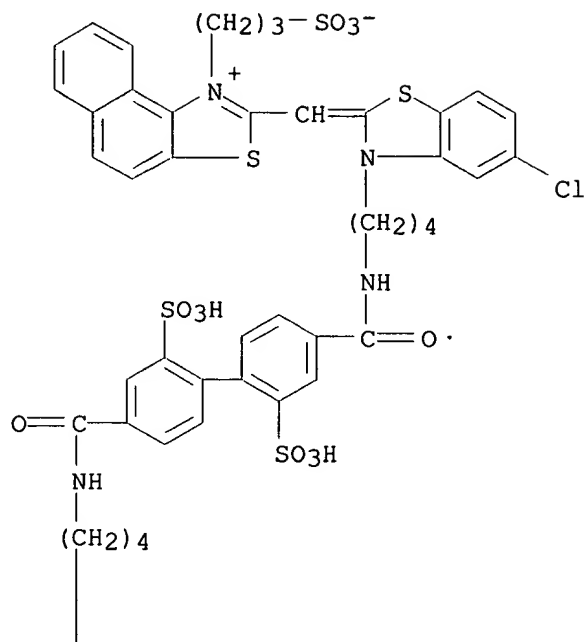
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CM 1

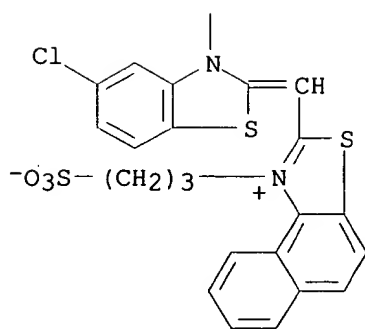
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CMF C66 H58 Cl2 N6 O14 S8

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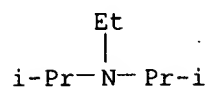
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CM 2

CRN 7087-68-5

CMF C8 H19 N



RN 405160-31-8 HCAPLUS

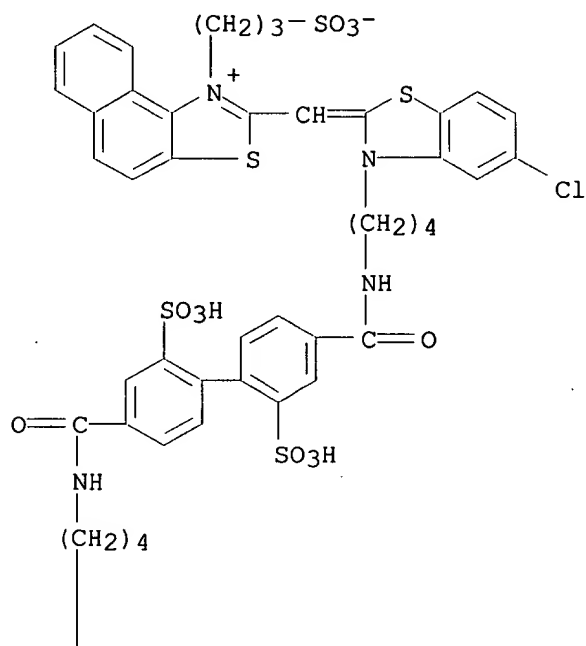
CN Naphtho[1,2-d]thiazolium, 2,2'-[(2,2'-disulfo[1,1'-biphenyl]-4,4'-diyl)bis(carbonylimino-3,1-propanediyl(5-sulfo-3(2H)-benzothiazolyl-2-ylidene)methylidyne)]bis[1-(3-sulfopropyl)-, bis(inner salt), monosodium salt, compd. with N-ethyl-N-(1-methylethyl)-2-propanamine (1:2) (9CI) (CA INDEX NAME)

CM 1

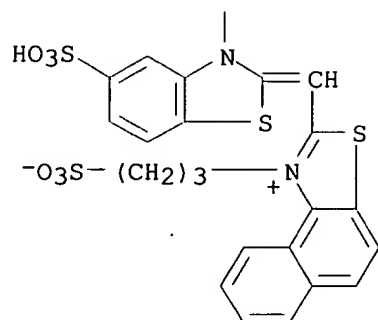
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CMF C66 H59 Cl N6 O17 S9

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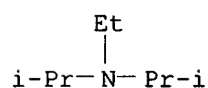
PAGE 2-A



CM 2

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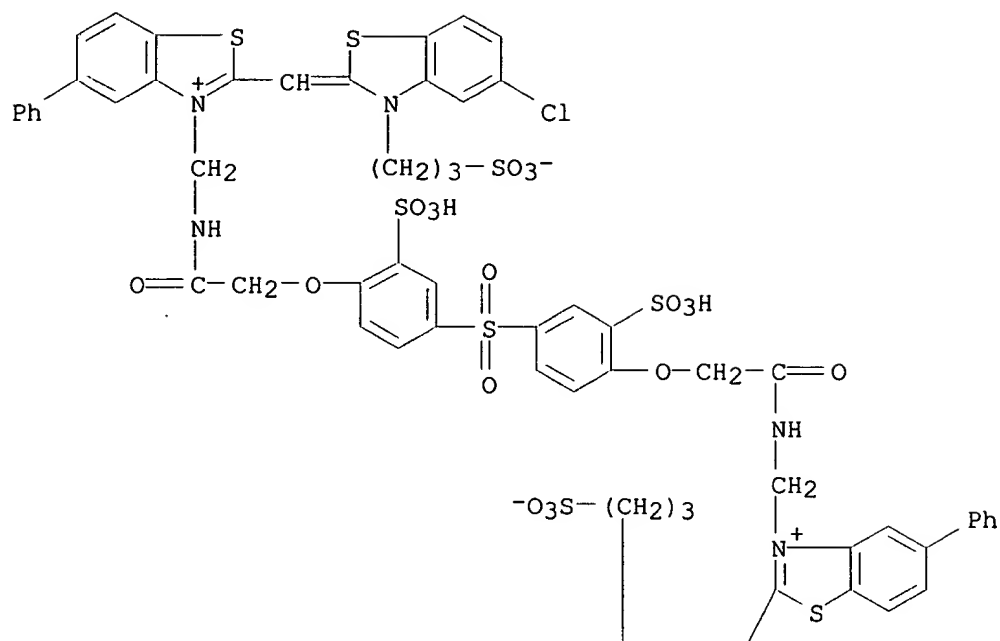
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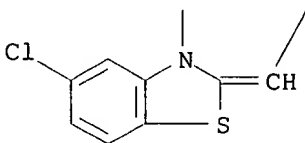
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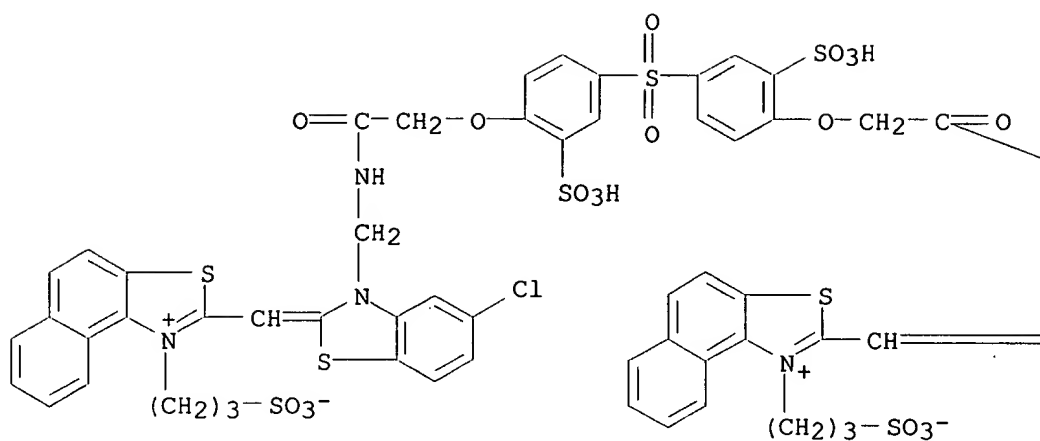
PAGE 2-A



● 2 Na

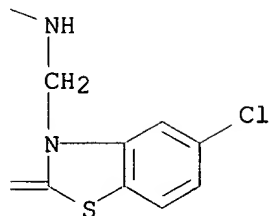
RN 405160-38-5 HCAPLUS
 CN Naphtho[1,2-d]thiazolium, 2,2'-[sulfonylbis[(2-sulfo-4,1-phenylene)oxy(1-oxo-2,1-ethanediyl)iminomethylene(5-chloro-3(2H)-benzothiazolyl-2-ylidene)methylidene]]bis[1-(3-sulfopropyl)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

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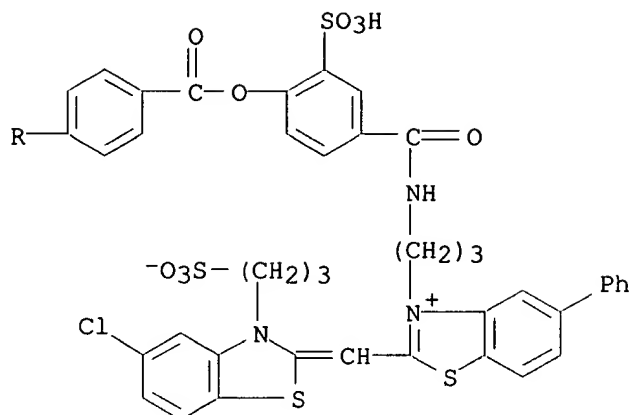
● 2 Na

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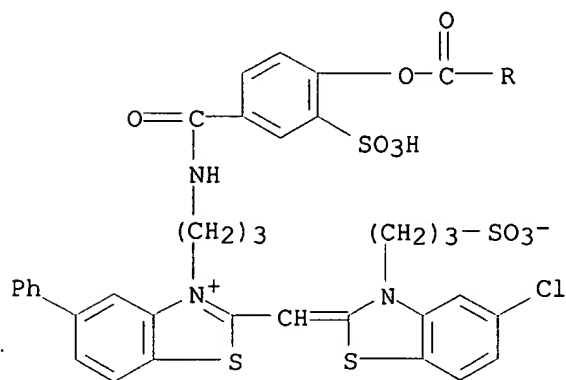


RN 405160-39-6 HCAPLUS
 CN Benzothiazolium, 3,3'-[1,4-phenylenebis(carboxyloxy(3-sulfo-4,1-phenylene)carbonylimino-3,1-propanediyl)]bis[2-[[5-chloro-3-(3-sulfophenyl)-2(3H)-benzothiazolylidene]methyl]-5-phenyl-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

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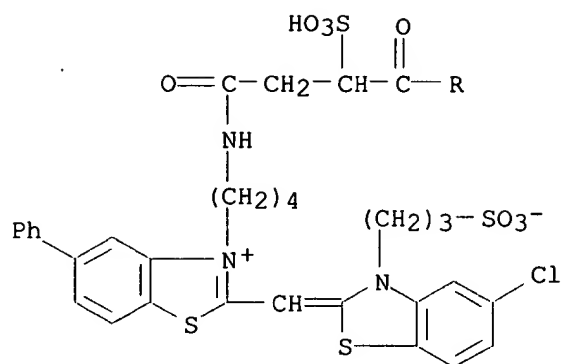
● 2 Na

L22 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:216326 HCAPLUS
 DN 136:270409
 TI Linked methine sensitizing dyes and high-sensitivity silver halide
 photographic materials using them
 IN Takizawa, Hiroo
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 32 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03C001-12
 ICS C09B023-00; G03C001-14
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)

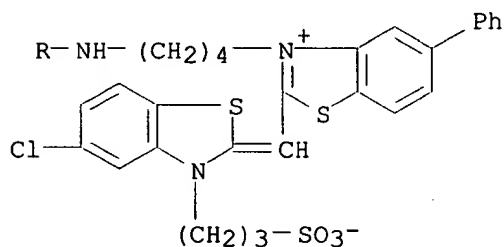
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002082403	A2	20020322	JP 2000-268923	20000905
	US 2002155400	A1	20021024	US 2001-943354	20010831
	CN 1347009	A	20020501	CN 2001-123662	20010903
PRAI	JP 2000-268923	A	20000905		
	JP 2000-268924	A	20000905		
OS	MARPAT 136:270409				
AB	The photog. material has silver halide photog. emulsions contg. sensitizing dyes Dye1[L1(R1m3)Dye2m1]m2 (Dye1, Dye2 = coloring group; L1 = linking chain; R1 = dissocg. group with pKa .ltoreq.5; m1, m2 = 1-5; m3 = 1-4). Dye1 and Dye2 may be cyanine, merocyanine, or oxonol groups.				
ST	photog sensitizer linked methine dye complex				
IT	Cyanine dyes				
	Photographic emulsions				
	Photographic sensitizers				
	(linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)				
IT	19089-60-2	405160-20-5			
	RL: RCT (Reactant); RACT (Reactant or reagent)				
	(linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)				
IT	405111-80-0				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(sensitizing dye; 23linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)				
IT	405111-79-7P				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)				
IT	405111-81-1	405111-82-2	405111-83-3		
	405111-84-4	405111-85-5	405111-86-6	405111-87-7	
	405111-88-8	405111-89-9	405111-90-2	405111-91-3	405111-92-4
	405111-93-5	405113-57-7	405113-58-8		
	405113-59-9	405113-60-2	405113-61-3	405113-62-4	
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)				
IT	405111-80-0				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(sensitizing dye; 23linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)				
RN	405111-80-0 HCAPLUS				
CN	Benzothiazolium, 3,3'-[(1,4-dioxo-2-sulfo-1,4-butanediyl)bis(imino-4,1-butanediyl)]bis[2-[[5-chloro-3-(3-sulfopropyl)-2(3H)-benzothiazolylidene]methyl]-5-phenyl-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)				

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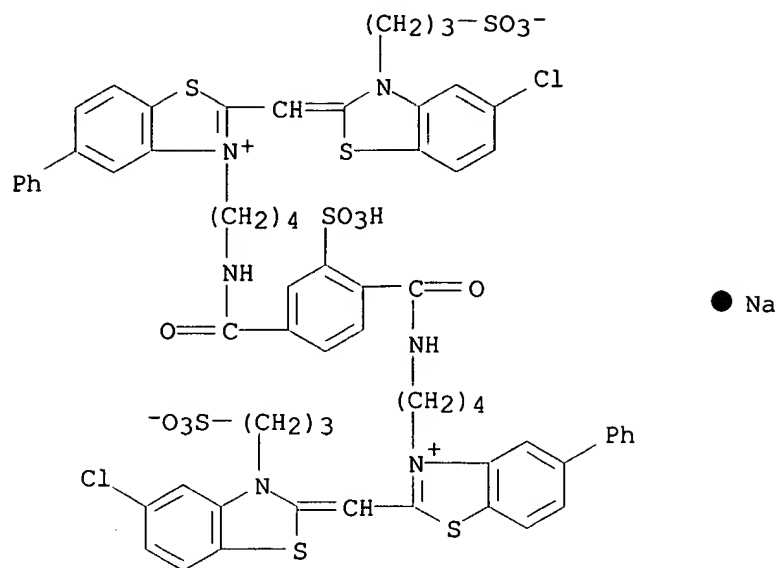


PAGE 2-A



● Na

IT 405111-79-7P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (sensitizing dye; linked methine sensitizing dyes for high-sensitivity silver halide photog. materials)
 RN 405111-79-7 HCAPLUS
 CN Benzothiazolium, 3,3'-[(2-sulfo-1,4-phenylene)bis(carbonylimino-4,1-butanediyl)]bis[2-[[5-chloro-3-(3-sulfopropyl)-2(3H)-benzothiazolylidene]methyl]-5-phenyl-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)

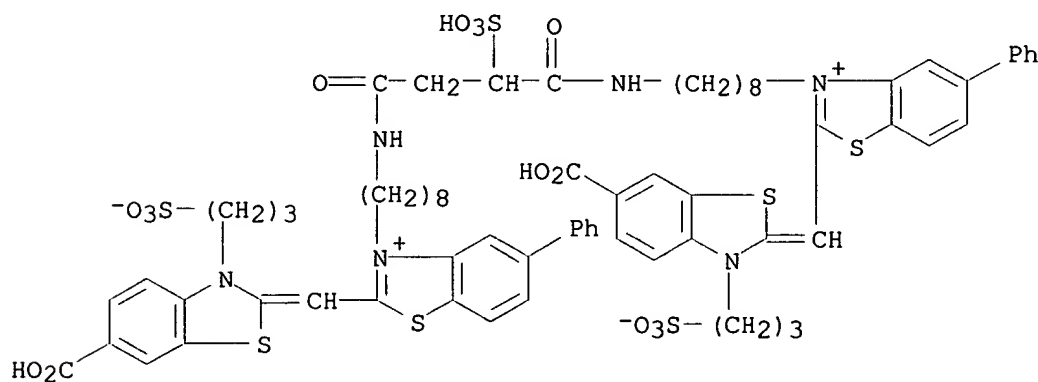


IT 405111-81-1 405111-82-2 405111-83-3
 405111-84-4 405111-93-5 405113-57-7
 405113-58-8 405113-62-4

RL: TEM (Technical or engineered material use); USES (Uses)
 (sensitizing dye; linked methine sensitizing dyes for high-sensitivity
 silver halide photog. materials)

RN 405111-81-1 HCAPLUS

CN Benzothiazolium, 3,3'-[(1,4-dioxo-2-sulfo-1,4-butanediyl)bis(imino-8,1-
 octanediyl)]bis[2-[[6-carboxy-3-(3-sulfopropyl)-2(3H)-
 benzothiazolylidene)methyl]-5-phenyl-, bis(inner salt), trisodium salt
 (9CI) (CA INDEX NAME)



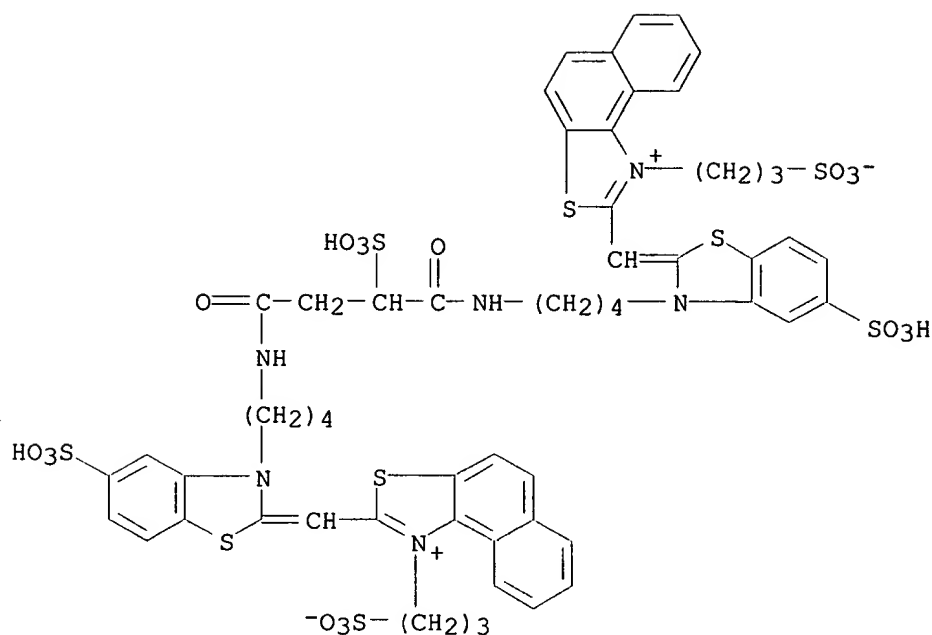
● 3 Na

RN 405111-82-2 HCAPLUS

CN Naphtho[1,2-d]thiazolium, 2,2'-[(1,4-dioxo-2-sulfo-1,4-
 butanediyl)bis[imino-4,1-butanediyl(5-sulfo-3(2H)-benzothiazolyl-2-
 ylidene)methylidene]]bis[1-(3-sulfopropyl)-, bis(inner salt), trisodium

salt (9CI) (CA INDEX NAME)

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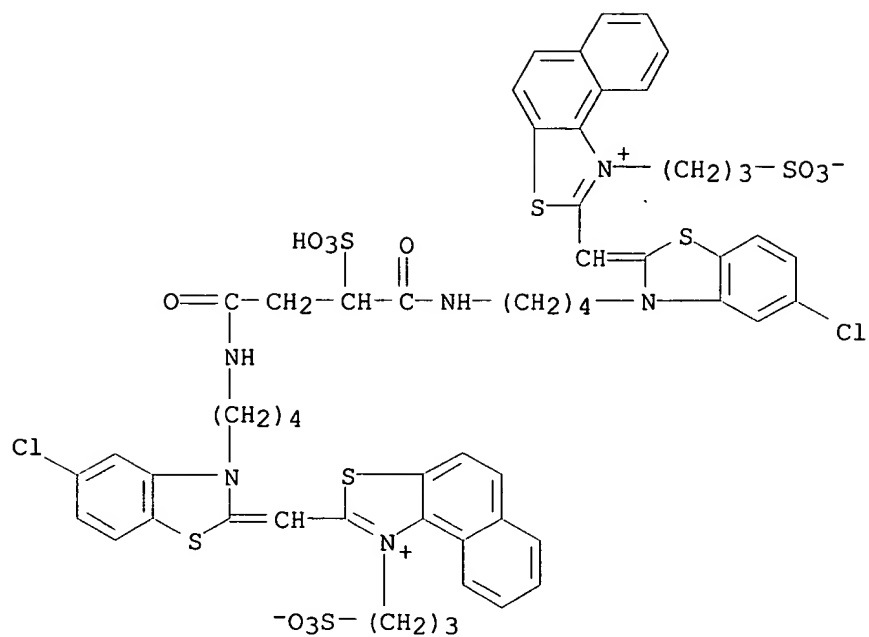


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● 3 Na

RN 405111-83-3 HCAPLUS
 CN Naphtho[1,2-d]thiazolium, 2,2'-[(1,4-dioxo-2-sulfo-1,4-butanediyl)bis[imino-4,1-butanediyl(5-chloro-3(2H)-benzothiazolyl-2-ylidene)methylidene]]bis[1-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)

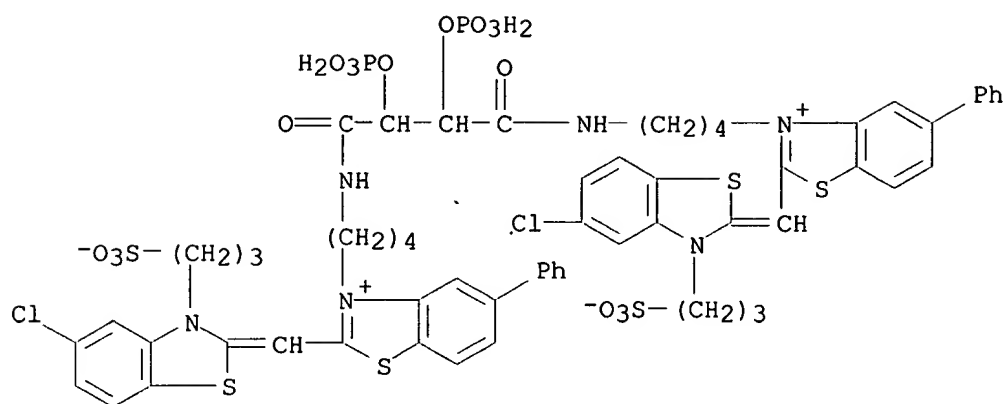
PAGE 1-A



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● Na

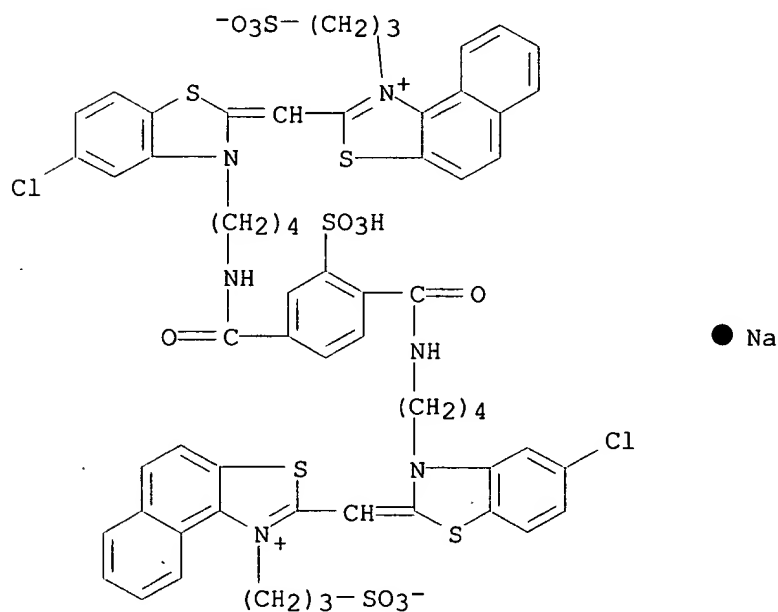
RN 405111-84-4 HCAPLUS
 CN Benzothiazolium, 3,3'-[[1,4-dioxo-2,3-bis(phosphonooxy)-1,4-butanediyl]bis(imino-4,1-butanediyl)]bis[2-[[5-chloro-3-(3-sulfopropyl)-2(3H)-benzothiazolyliidene]methyl]-5-phenyl-, bis(inner salt), tetrasodium salt (9CI) (CA INDEX NAME)



●₄ Na

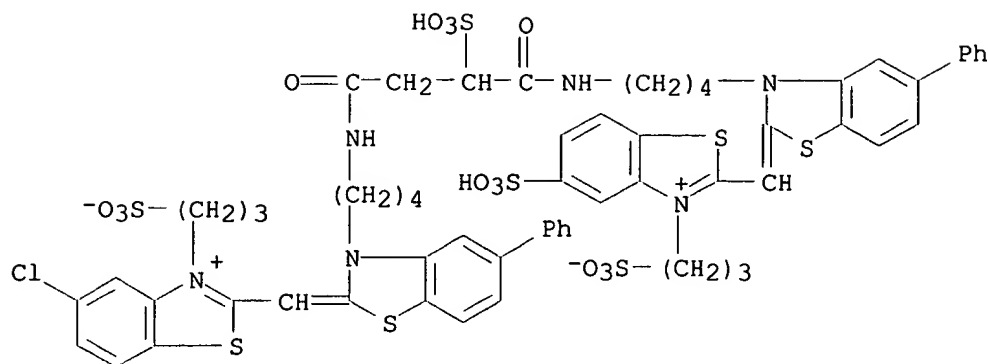
RN 405111-93-5 HCAPLUS

Naphtho[1,2-d]thiazolium, 2,2'-[(2-sulfo-1,4-phenylene)bis[carbonylimino-4,1-butanediyl(5-chloro-3(2H)-benzothiazolyl-2-ylidene)methylidyne]]bis[1-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)



RN 405113-57-7 HCAPLUS

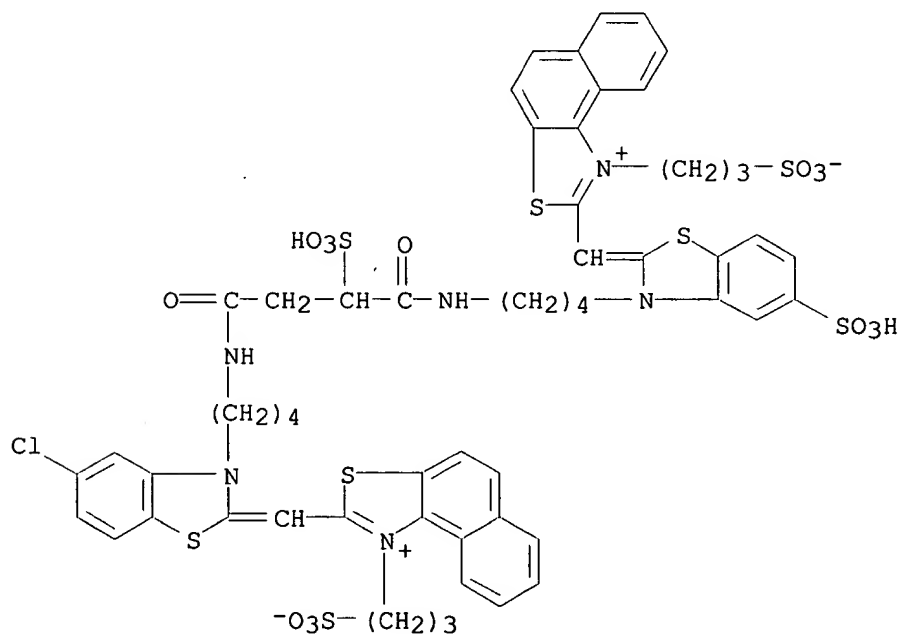
CN Benzothiazolium, 5-chloro-2-[[3-[4-[[1,4-dioxo-4-[[4-[5-phenyl-2-[[5-sulfo-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]butyl]amino]-3-sulfo-butyl]amino]butyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(sulfopropyl)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 405113-58-8 HCAPLUS
 CN Naphtho[1,2-d]thiazolium, 2-[[5-chloro-3-[4-[[1,4-dioxo-3-sulfo-4-[[4-[5-sulfo-2-[[1-(3-sulfopropyl)naphtho[1,2-d]thiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]butyl]amino]butyl]amino]butyl]-2(3H)-benzothiazolylidene]methyl]-1-(sulfopropyl)-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

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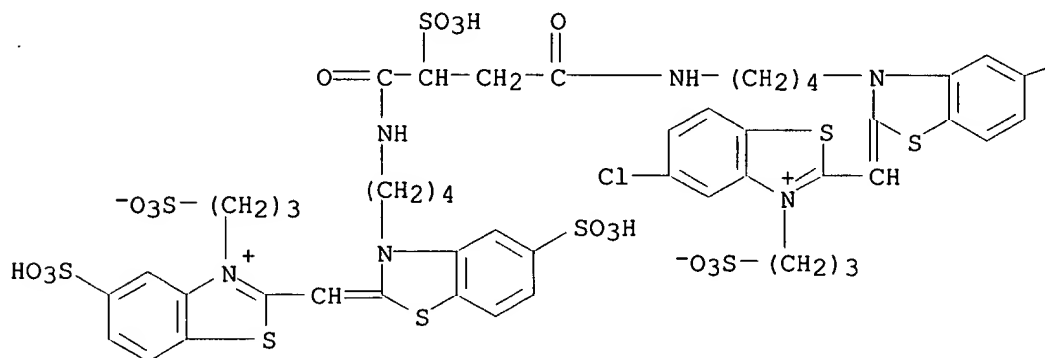


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● 2 Na

RN 405113-62-4 HCAPLUS
 CN Benzothiazolium, 5-chloro-2-[[3-[4-[[1,4-dioxo-3-sulfo-4-[[4-[5-sulfo-2-
 [[5-sulfo-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-
 benzothiazolyl]butyl]amino]butyl]amino]butyl]-5-phenyl-2(3H)-
 benzothiazolylidene]methyl]-3-(sulfopropyl)-, bis(inner salt), monosodium
 salt (9CI) (CA INDEX NAME)

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● Na

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Ph

L22 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:131243 HCAPLUS
 DN 136:207614
 TI Silver halide photographic material containing cyanine dye spectral
 sensitizer with two coupled chromophores
 IN Takizawa, Hiroo
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 37 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03C001-14
 ICS G03C001-035; G03C001-09; G03C001-28
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 41
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002055406	A2	20020220	JP 2000-244785	20000811
	US 2002086250	A1	20020704	US 2001-842086	20010426
	CN 1321916	A	20011114	CN 2001-115466	20010427
PRAI	JP 2000-128040	A	20000427		
	JP 2000-244785	A	20000811		
	JP 2000-268925	A	20000905		
	JP 2000-282028	A	20000918		
OS	MARPAT 136:207614				
GI					

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The material has .gtoreq.1 emulsion layer contg. the cyanine dye I (X1-4 = O, S, NR3, CR4R5; R3-5 = H, alkyl, alkenyl, aryl, heterocycle; R1, R2 = H, alkyl, alkenyl, aryl, heterocycle; M1-6 = methine; n1, n2 = 0-3; L = linkage contg. .gtoreq.1 hetero atom except an amide and an ester; V1-4 = substituent which may form a ring; n3-n6 = 0-4; CI = charge neutralizing ion; y = the no. of the ion) or II [A1 = CO2, CONR6, SO2NR7; R6, R7 = H, alkyl, alkenyl, aryl, heterocycle; t1 = 0-10; L1, L2 = alkylene, alkenylene, arylene, G1(A2G2)t2; G1, G2 = alkylene, alkenylene, arylene; A2 = O, S, NR3, SO2; t2 = 1-10; the others are the same as those of I]. The dye II is also claimed. The material shows high sensitivity.

ST two chromophore cyanine dye photog spectral sensitizer; photog film canine dye sensitizer

IT Photographic films
(photog. film contg. cyanine dye sensitizer with two chromophores)

IT Photographic sensitizers
(spectral; photog. film contg. cyanine dye sensitizer with two chromophores)

IT 400881-69-8P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photog. film contg. cyanine dye sensitizer with two chromophores)

IT 400881-70-1 400881-71-2 400881-72-3 400881-73-4 400881-74-5
400881-75-6 400881-76-7 **400881-77-8** 400881-78-9
400881-79-0 400881-80-3 400881-81-4 400881-82-5 400881-83-6
400881-85-8
RL: TEM (Technical or engineered material use); USES (Uses)
(photog. film contg. cyanine dye sensitizer with two chromophores)

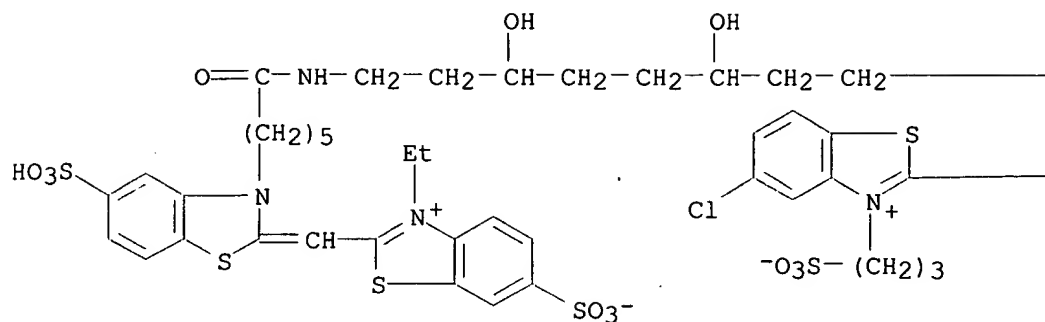
IT 400881-86-9 400881-87-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of cyanine dye spectral sensitizer having two chromophores)

IT **400881-77-8**
RL: TEM (Technical or engineered material use); USES (Uses)
(photog. film contg. cyanine dye sensitizer with two chromophores)

RN 400881-77-8 HCAPLUS

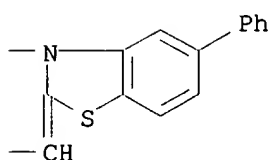
CN Benzothiazolium, 5-chloro-2-[[3-[8-[[6-[2-[(3-ethyl-6-sulfobenzothiazolium-2-yl)methylene]-5-sulfo-3(2H)-benzothiazolyl]-1-oxohexyl]amino]-3,6-dihydroxyoctyl]-5-phenyl-2(3H)-benzothiazolylidene]methyl]-3-(3-sulfopropyl)-, bis(inner salt), monosodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● Na

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L22 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:814124 HCAPLUS

DN 135:364453

TI Methine sensitizer to obtain high contrast photographic emulsion for photographic material

IN Kato, Takashi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 63 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09B023-00

ICS C09B023-00; G03C001-035; G03C001-06; G03C001-09; G03C001-12; G03C001-34; G03C005-02; G03C007-00

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001311015	A2	20011109	JP 2000-128040	20000427
	US 2002086250	A1	20020704	US 2001-842086	20010426
	CN 1321916	A	20011114	CN 2001-115466	20010427
PRAI	JP 2000-128040	A	20000427		
	JP 2000-244785	A	20000811		
	JP 2000-268925	A	20000905		
	JP 2000-282028	A	20000918		

OS MARPAT 135:364453

AB The title methine sensitizer is represented by a general formula

$A_1(L(A_2)_n)_m$ [A_1 , A_2 = chromophore; L = connecting group, single bond; n , m = 1-5]. The above methine sensitizer enhances the sensitivity of the photog. emulsion and is suitable for producing a high contrast photog. film.

ST methine sensitizer high contrast photog emulsion film

IT Photographic emulsions
(high-contrast; methine sensitizer to obtain high contrast photog. emulsion for photog. material)

IT Photographic sensitizers
(methine sensitizer to obtain high contrast photog. emulsion for photog. material)

IT 372512-54-4 372512-56-6

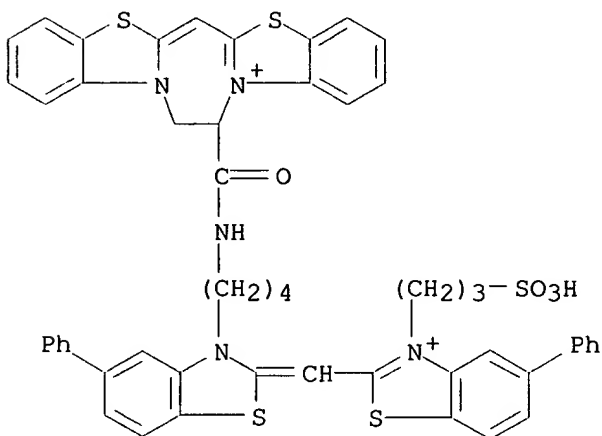
RL: MOA (Modifier or additive use); USES (Uses)
(methine sensitizer to obtain high contrast photog. emulsion for photog. material)

IT 372512-54-4 372512-56-6

RL: MOA (Modifier or additive use); USES (Uses)
(methine sensitizer to obtain high contrast photog. emulsion for photog. material)

RN 372512-54-4 HCAPLUS

CN Bisbenzothiazolo[3,2-d:2',3'-g][1,4]diazepin-12-ium, 13,14-dihydro-13-[[[4-[5-phenyl-2-[[5-phenyl-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]butyl]amino]carbonyl]-, dichloride (9CI) (CA INDEX NAME)



● 2 Cl⁻

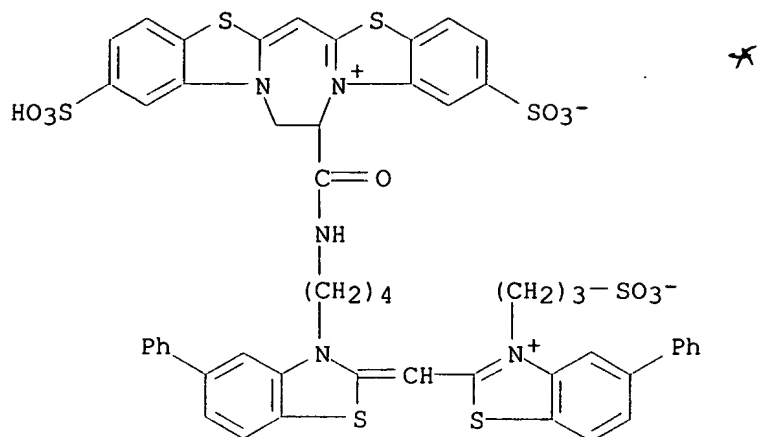
RN 372512-56-6 HCAPLUS

CN Bisbenzothiazolo[3,2-d:2',3'-g][1,4]diazepin-12-ium, 13,14-dihydro-13-[[[4-[5-phenyl-2-[[5-phenyl-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]butyl]amino]carbonyl]-2,10-disulfo-, bis(inner salt), compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 372512-55-5

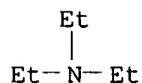
CMF C52 H43 N5 O10 S7



CM 2

CRN 121-44-8

CMF C6 H15 N



L22 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2002 ACS
 AN 1994:257322 HCAPLUS
 DN 120:257322
 TI Dye compound and photographic element containing same
 IN Vishwakarma, Lal Chand; Dobles, Thomas Robert
 PA Eastman Kodak Co., USA
 SO Eur. Pat. Appl., 34 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM G03C001-20
 ICS G03C001-16; C09B023-08; C09B023-04
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 565083	A1	19931013	EP 1993-105771	19930407
	EP 565083	B1	19981014		
	R: BE, CH, DE, FR, GB, IT, LI, NL				
	US 5288738	A	19940222	US 1992-865382	19920408
	JP 06027578	A2	19940204	JP 1993-80543	19930407
PRAI	US 1992-865382		19920408		

OS MARPAT 120:257322

GI For diagram(s), see printed CA Issue.

AB A red-sensitizing dye for a Ag halide photog. material is represented by the formula I or II wherein Z1, Z2, Z3, and Z4 represent the nonmetallic atoms necessary to complete a substituted or unsubstituted heterocyclic ring system contg. at least one 5- or 6-membered heterocyclic nucleus; R

and R1 represent an alkyl group of 1 to about 10 carbon atoms or an aryl, aralkyl, or cycloalkyl group of 5 to about 12 carbon atoms; L1 represents an unsubstituted or alkyl-substituted methine group; L2 represents a linking group of 4 to about 20 atoms contg. at least two alkylene groups and at least one ester group, amide group, or carbamate group; M⁺ represents a cation; and X⁻ represents an anion or an anionic group on the compds. that forms an intramol. salt.

ST pentamethineoxonol cyanine dye photog sensitizer

IT Photographic sensitizers

(pentamethineoxonol cyanine dyes as, for red region)

IT 154256-30-1 **154256-31-2**

RL: TEM (Technical or engineered material use); USES (Uses)

(photog. sensitizer, for red region)

IT **154256-31-2**

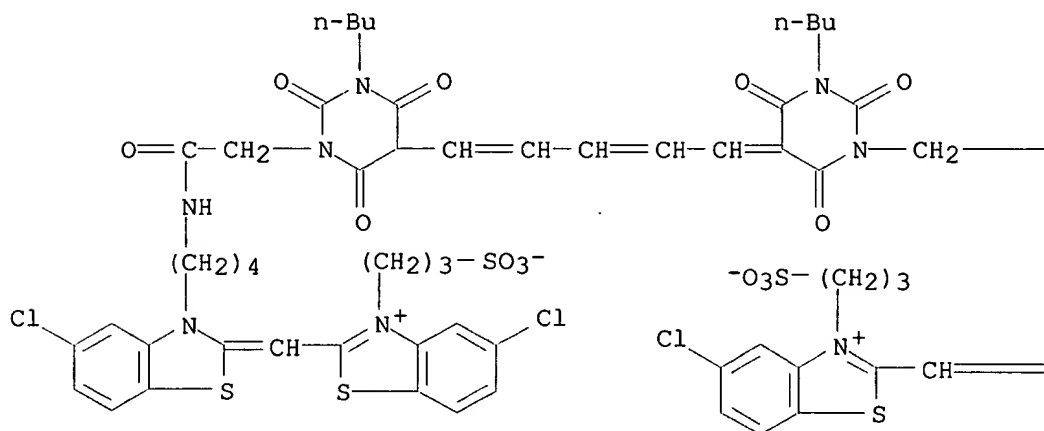
RL: TEM (Technical or engineered material use); USES (Uses)

(photog. sensitizer, for red region)

RN 154256-31-2 HCAPLUS

CN Benzothiazolium, 2-[[[3-[4-[[[3-butyl-5-[5-[1-butyl-3-[2-[[4-[5-chloro-2-[[5-chloro-3-(3-sulfopropyl)benzothiazolium-2-yl]methylene]-3(2H)-benzothiazolyl]butyl]amino]-2-oxoethyl]tetrahydro-2,4,6-trioxo-5(2H)-pyrimidinylidene]-1,3-pentadienyl]tetrahydro-2,4,6-trioxo-1(2H)-pyrimidinyl]acetyl]amino]butyl]-5-chloro-2(3H)-benzothiazolylidene]methyl]-5-chloro-3-(3-sulfopropyl)-, inner salt, disodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Na

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